

Contents of Volume 253

American Journal of Physiology

**American Journal of Physiology:
Cell Physiology**

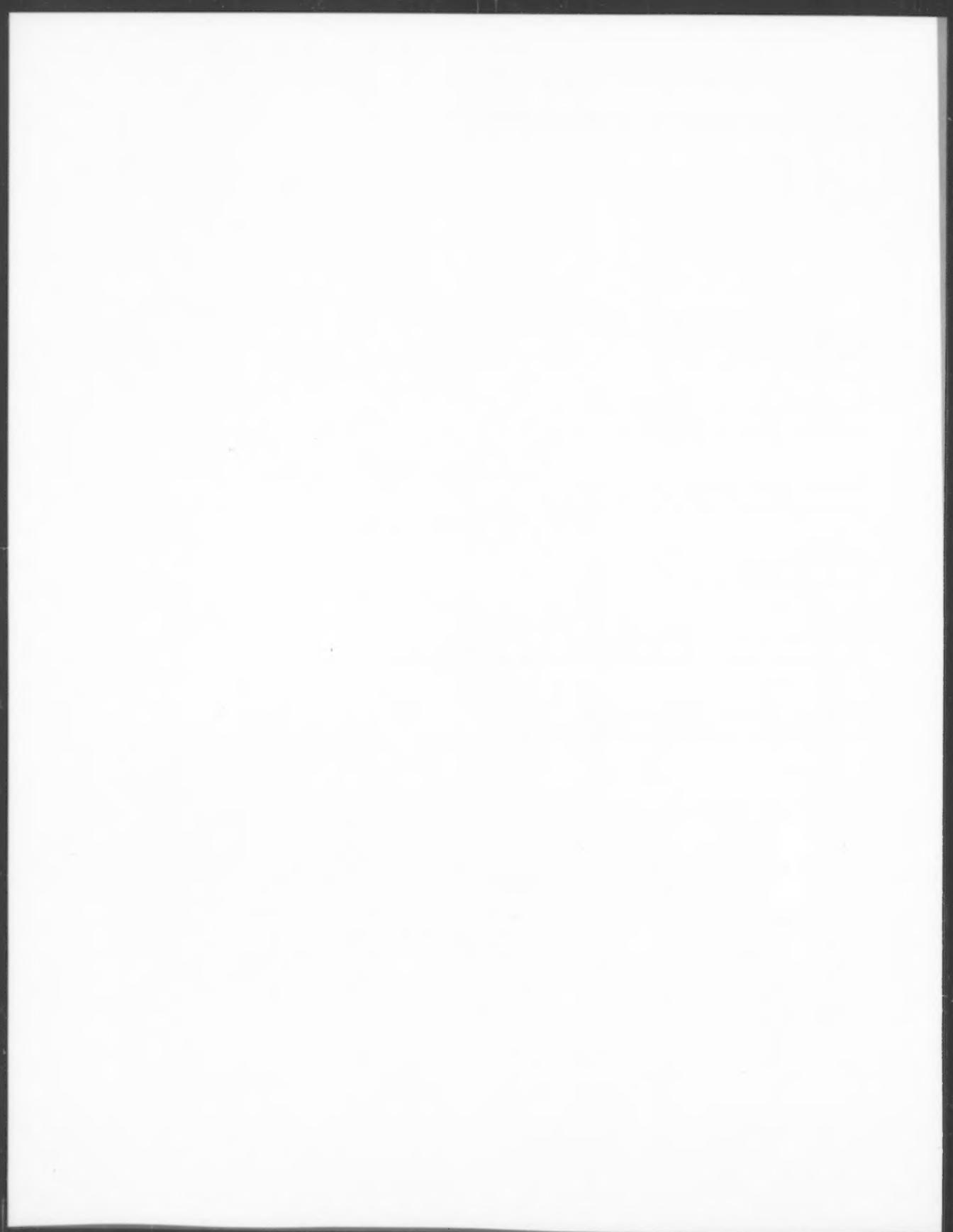
**American Journal of Physiology:
Endocrinology and Metabolism**

**American Journal of Physiology:
Gastrointestinal and Liver Physiology**

**American Journal of Physiology:
Heart and Circulatory Physiology**

**American Journal of Physiology:
Regulatory, Integrative and Comparative Physiology**

**American Journal of Physiology:
Renal, Fluid and Electrolyte Physiology**



American Journal of Physiology: Cell Physiology

No. 1. JULY 1987

Time-dependent apical membrane K ⁺ and Na ⁺ selectivity in cultured kidney cells <i>S. R. Thomas and E. Mintz</i>	C1
Effect of N-ethylmaleimide on K transport in density-separated human red blood cells <i>L. R. Berkowitz, D. Walstad, and E. P. Orringer</i>	C7
Complement complex C5b-8 induces PGI ₂ formation in cultured endothelial cells <i>N. Suttorp, W. Seeger, S. Zinsky, and S. Bhakdi</i>	C13
Mechanical work, oxygen consumption, and efficiency in isolated frog and rat muscle <i>N. C. Heglund and G. A. Cavagna</i>	C22
Na-H and Cl-HCO ₃ ⁻ exchange in rabbit oxyntic cells using fluorescence microscopy <i>A. M. Paradiso, R. Y. Tsien, J. R. Demarest, and T. E. Machen</i>	C30
Heterogeneity of expression of apical membrane determinants in A6 epithelial cells <i>J. B. Moberly and D. D. Fanestil</i>	C37
La ³⁺ , Mn ²⁺ , and Ni ²⁺ effects on Ca ²⁺ pump and on Na ⁺ -Ca ²⁺ exchange in bullfrog ventricle <i>G. Brommundt and F. Kavaler</i>	C45
Potentiation of contraction in bullfrog ventricle strips by manganese and nickel <i>F. Kavaler and G. Brommundt</i>	C52
Interactions of sodium-proton exchange mechanism in dog red blood cells with N-phenylmaleimide <i>J. C. Parker and P. S. Glosson</i>	C60
Differences in CuZn superoxide dismutase induction in lungs of neonatal and adult rats <i>M. A. Hass and D. Massaro</i>	C66
Disorganization by calcium antagonists of actin microfilament in aortic smooth muscle cells <i>Y. Sasaki, Y. Sasaki, K. Kanno, and H. Hidaka</i>	C71
Diphenylamine-2-carboxylate blocks Cl ⁻ -HCO ₃ ⁻ exchange in <i>Necturus gallbladder epithelium</i> <i>L. Reuss, J. L. Costantin, and J. E. Bazile</i>	C79
Effect of length and cross-bridge attachment on Ca ²⁺ binding to cardiac troponin C <i>P. A. Hofmann and F. Fuchs</i>	C90
Muscarinic cholinergic inhibition of adenylate cyclase in airway smooth muscle <i>C. A. Jones, J. M. Madison, M. Tom-Moy, and J. K. Brown</i>	C97
Prevention of α_2 -adrenergic inhibition on ADH action by pertussis toxin in rabbit CCT <i>C. P. Ribeiro, F. Ribeiro-Neto, J. B. Field, and W. N. Suki</i>	C105
Angiotensin II stimulates phospholipases C and A ₂ in cultured rat mesangial cells <i>D. Schlondorff, S. DeCandido, and J. A. Satriano</i>	C113
Flow cytometric analysis of intracellular pH in 3T3 cells <i>R. J. Gillies, J. Cook, M. H. Fox, and K. A. Giuliano</i>	C121
Measurement of Na ⁺ -K ⁺ coupling ratio of Na ⁺ -K ⁺ -ATPase in rabbit proximal tubules <i>M. J. Avišon, S. R. Gullans, T. Ogino, G. Giebisch, and R. G. Shulman</i>	C126
Altered Ca fluxes and contractile state during pH changes in cultured heart cells <i>D. Kim and T. W. Smith</i>	C137
Angiotensin decreases cyclic GMP accumulation produced by atrial natriuretic factor <i>J. B. Smith and T. M. Lincoln</i>	C147
Rescue of a wild-type MDCK cell by a ouabain-resistant mutant <i>J. J. Bolívar, A. Lázaro, S. Fernández, E. Stefani, V. Peña-Cruz, C. Lechene, and M. Cerejido</i>	C151
Pituitary Ca ²⁺ channels: blockade by conventional and novel Ca ²⁺ antagonists <i>J. J. Enyeart, S.-S. Sheu, and P. M. Hinkle</i>	C162

RAPID COMMUNICATIONS

- Intestinal absorptive cell tight junctions are linked to cytoskeleton
J. L. Madara

C171

ANNOUNCEMENTS

C176

No. 2. AUGUST 1987**INVITED REVIEW**

- Characteristics and functions of Na-K-Cl cotransport in epithelial tissues
S. M. O'Grady, H. C. Palfrey, and M. Field

C177

-
- Na-H antiport in cultured rat aortic smooth muscle: its role in cytoplasmic pH regulation

P. L. Weissberg, P. J. Little, E. J. Cragoe, Jr., and A. Bobik

C193

- Inhibition by amiloride analogues of Na⁺-dependent hexose uptake in LLC-PK₁/Cl₄ cells
J. S. Cook, C. Shaffer, and E. J. Cragoe, Jr.

C199

- Actin synthesis rate and mRNA level increase during early recovery of atrophied muscle
P. R. Morrison, G. W. Muller, and F. W. Booth

C205

- Mechanical properties of skinned single fibers of identified types from rat diaphragm
T. J. Eddinger and R. L. Moss

C210

- Mitogen stimulation of Na⁺-H⁺ exchange: differential involvement of protein kinase C
L. L. Muldoon, G. A. Jamieson, Jr., A. C. Kao, H. C. Palfrey, and M. L. Villereal

C219

- High NaCl induces stable changes in phenotype and karyotype of renal cells in culture
S. Uchida, N. Green, H. Coon, T. Triche, S. Mims, and M. Burg

C230

- Photolabeling of a 150-kDa (Na⁺-K⁺-Cl) cotransport protein from dog kidney with a bumetide analogue
M. Haas and B. Forbush III

C243

- [Na]_i modulates isoproterenol's effect on Ca permeability in cultured heart cells
D. Kim and T. W. Smith

C253

- Hyperoxia, mitochondrial redox state, and lactate metabolism of in situ canine muscle
B. R. Wolfe, T. E. Graham, and J. K. Barclay

C263

- Coupling of aerobic glycolysis and Na⁺-K⁺-ATPase in renal cell line MDCK
R. M. Lynch and R. S. Balaban

C269

- Effects of 12-HETE on renal tubular epithelial cells
J. A. Gordon and A. A. Spector

C277

- Band 3 tyrosine kinase in avian erythrocyte plasma membrane is immunologically related to pp60^{c-abl}
D. Hillsgrave, C. G. Shores, J. C. Parker, and P. F. Maness

C286

- Changes in intracellular ionized Ca concentration associated with muscle fiber type transformation
F. A. Sreter, J. R. Lopez, L. Alamo, K. Mabuchi, and J. Gergely

C296

- Distinctive between mechanisms underlying α_1 - and β -adrenergic respiratory stimulation in brown fat cells
N. Mohell, E. Connolly, and J. Nedergaard

C301

- Measurement of intracellular Ca²⁺ activity in *Necturus* gallbladder
C. E. Palant and I. Kurtz

C309

- Energy metabolism in contracting rat skeletal muscle: adaptation to exercise training
*S. H. Constable, R. J. Favier, J. A. McLane, R. D. Fell,
M. Chen, and J. O. Holloszy*

C316

- Three distinct cell populations in rat kidney collecting duct
H. Holthöfer, B. A. Schulte, G. Pasternack, G. J. Siegel, and S. S. Spicer

C323

- Gap junctions and synchronization of polarization process during epithelial reorganization
C. A. Rabito, J. A. Jarrell, and J. A. Scott

C329

SPECIAL COMMUNICATIONS

Free calcium in isolated chick embryo heart cells measured using quin2 and fura-2 <i>R. Jacob, E. Murphy, and M. Lieberman</i>	C337
Cl ⁻ -selective microelectrodes: sensitivity to anionic Cl ⁻ transport inhibitors <i>A. C. Chao and W. McD. Armstrong</i>	C343

ANNOUNCEMENTS

C348

No. 3. SEPTEMBER 1987**SPECIAL REPORT**

Isolated muscle cells as a physiological model <i>M. Lieberman, S. D. Hauschka, Z. W. Hall, B. R. Eisenberg, R. Horn, J. V. Walsh, R. W. Tsien, A. W. Jones, J. L. Walker, M. Poenie, F. Fay, F. Fabiato, and C. C. Ashley</i>	C349
Ryanodine modifies conductance and gating behavior of single Ca ²⁺ release channel <i>E. Rousseau, J. S. Smith, and G. Meissner</i>	C364
β-Adrenergic relaxation of smooth muscle: differences between cells and tissues <i>C. R. Scheid</i>	C369
Dependence of tonic tension on extracellular calcium in rat extraocular muscle <i>D. J. Chiarandini and J. Jacoby</i>	C375
Endotoxin alters arachidonate metabolism in pulmonary endothelial cells <i>N. Suttorp, C. Galanos, and H. Neuhoef</i>	C384
Dependence of L-arginine accumulation on membrane potential in cultured human fibroblasts <i>O. Bussolati, P. C. Laris, F. A. Nucci, V. Dall'Asta, N. Longo, G. G. Guidotti, and G. C. Gazzola</i>	C391
Effects of rest duration and ryanodine on changes of extracellular [Ca] in cardiac muscle from rabbits <i>K. T. MacLeod and D. M. Bers</i>	C398
Ryanodine and the calcium content of cardiac SR assessed by caffeine and rapid cooling contractures <i>D. M. Bers</i>	C408
Sulfate transport in apical membrane vesicles isolated from tracheal epithelium <i>A. Elgavish, D. R. DiBona, P. Norton, and E. Meezan</i>	C416
ATP depletion in slow-twitch red muscle of rat <i>D. M. Whitlock and R. L. Terjung</i>	C426
A distal nephron glycoprotein that has different cell surface distributions on MDCK cell sublines <i>G. K. Ojakian, R. E. Romain, and R. E. Herz</i>	C433
Reversible MM-creatine kinase binding to cardiac myofibrils <i>R. Ventura-Clapier, V. A. Saks, G. Vassort, C. Lauer, and G. V. Elizarova</i>	C444
Myofibrillar M-band structure and composition of physiologically defined rat motor units <i>L.-E. Thornell, E. Carlsson, E. Kugelberg, and B. K. Grove</i>	C456
Dependence on multivalent cations of quantal release of transmitter induced by black widow spider venom <i>S. Misler and L. C. Falke</i>	C469
Detection of an oxidizable fraction of cytochrome oxidase in intact rat brain <i>J. C. LaManna, T. J. Sick, S. M. Pikarsky, and M. Rosenthal</i>	C477
Stiffness of active smooth muscle during forced elongation <i>R. A. Meiss</i>	C484

No. 4. OCTOBER 1987

Gentamicin enhanced production of hydrogen peroxide by renal cortical mitochondria <i>P. D. Walker and S. V. Shah</i>	C495
Structural and functional relationship of red blood cell protein 4.1 to synapsin I <i>K. E. Krebs, S. M. Prouty, I. S. Zagon, and S. R. Goodman</i>	C500
Regulation of ribosome synthesis during compensatory renal hypertrophy in mice <i>A. J. Ouellette, R. Moonka, A. D. Zelenetz, and R. A. Malt</i>	C506
Newly synthesized protein secretion in rat lacrimal gland: post-second messenger synergism <i>P. Mauduit, G. Herman, and B. Rossignol</i>	C514
Δ Alkalinity: a simple method to measure cellular net acid-base fluxes <i>Z.-H. Burbea, S. R. Gullans, and S. Ben-Yakov</i>	C525
Distribution of meprin in kidneys from mice with high- and low-meprin activity <i>S. S. Craig, J. F. Reckelhoff, and J. S. Bond</i>	C535
Evidence for a force-dependent component of calcium binding to cardiac troponin C <i>P. A. Hofmann and F. Fuchs</i>	C541
Effects of pH changes on sodium pump fluxes in squid giant axon <i>G. E. Breitwieser, A. A. Altamirano, and J. M. Russell</i>	C547
Cl^- secretagogues increase basolateral K^+ conductance of frog corneal epithelium <i>J. M. Wolosin and O. A. Candia</i>	C555
Histamine-induced calcium release and phorbol antagonism in cultured airway smooth muscle cells <i>M. I. Kotlikoff, R. K. Murray, and E. E. Reynolds</i>	C561
Platelet-derived growth factor stimulated mechanisms of glucosamine incorporation <i>M. A. Harrington and W. J. Pledger</i>	C567
Control of late G_0/G_1 progression and protein modification by SmC/IGF I <i>N. E. Olashaw, J. J. Van Wyk, and W. J. Pledger</i>	C575
Diamide stimulates calcium-sodium exchange in dog red blood cells <i>J. C. Parker</i>	C580
Effects of bradykinin and angiotensin II on intracellular Ca^{2+} dynamics in endothelial cells <i>R. Morgan-Boyd, J. M. Stewart, R. J. Vavrek, and A. Hassid</i>	C588
Mechanics of tonus fibers of frog muscle <i>E. Bozler</i>	C599

RAPID COMMUNICATIONS

Block of intercellular communication: interaction of intracellular H^+ and Ca^{2+} <i>J. M. Burt</i>	C607
Photobleaching of fura-2 and its effect on determination of calcium concentrations <i>P. L. Becker and F. S. Fay</i>	C613
Changes in $\text{Na}^+ \text{-H}^+$ exchange regulation upon granulocytic differentiation of HL60 cells <i>D. Restrepo, D. J. Kozody, and P. A. Knauf</i>	C619

No. 5. NOVEMBER 1987

Adhesion and differentiation of cultured rat granulosa cells: role of fibronectin <i>P. Morley, D. T. Armstrong, and R. E. Gore-Langton</i>	C625
Renal epithelial cell growth can occur in absence of $\text{Na}^+ \text{-H}^+$ exchanger activity <i>M. Mohrman, H. F. Cantiello, and D. A. Ausiello</i>	C633
Induction of an increase in mitochondrial matrix enzymes in muscle of iron-deficient rats <i>Y. Ohira, L.-J. Cartier, M. Chen, and J. O. Holloszy</i>	C639
Cardiac myocyte guanosine transport and metabolism <i>T. P. Geisbuhler, D. A. Johnson, and M. J. Rovetto</i>	C645
Interactions of NIP-taurine, NAP-taurine, and Cl^- with the human erythrocyte anion exchange system <i>P. A. Knauf, N. A. Mann, J. E. Kalwas, L. J. Spinelli, and M. Ramjeesingh</i>	C652

Protamine alters apical membrane K ⁺ and Cl ⁻ permeability in gallbladder epithelium <i>S. M. Poler and L. Reuss</i>	C662
Effect of plasma membrane fluidity on serotonin transport by endothelial cells <i>E. R. Block and D. Edwards</i>	C672
Effect of secretagogues on cytoplasmic free calcium in alveolar type II epithelial cells <i>K. Sano, D. R. Voelker, and R. J. Mason</i>	C679
Regulation of ovarian ornithine decarboxylase by human chorionic gonadotrophin <i>G. J. Sertich, L. Person, and A. E. Pegg</i>	C687
SITS-sensitive Cl ⁻ conductance pathway in chick intestinal cells <i>M. Montrose, J. Randles, and G. A. Kimmich</i>	C693
Biochemical and structural changes in cultured heart cells induced by metabolic inhibition <i>E. Murphy, A. LeFurgey, and M. Lieberman</i>	C700
Vasopressin-induced changes in the three-dimensional structure of toad bladder apical surface <i>J. H. Hartwig, D. A. Ausiello, and D. Brown</i>	C707
(Na + K + 2Cl) cotransport in cultured embryonic chick heart cells <i>S. Liu, R. Jacob, D. Piwnica-Worms, and M. Lieberman</i>	C721
Na-K pump site density and ouabain binding affinity in cultured chick heart cells <i>L. A. Lobough and M. Lieberman</i>	C731

SPECIAL COMMUNICATIONS

Fura-2 fluorescence is localized to mitochondria in endothelial cells <i>S. F. Steinberg, J. P. Bilezikian, and Q. Al-Awqati</i>	C744
---	------

No. 6. DECEMBER 1987

INVITED REVIEW

Structure, biochemistry, and assembly of epithelial tight junctions <i>B. Gumbiner</i>	C749
---	------

Culture of type II pneumocytes on a type II cell-derived fibronectin-rich matrix <i>S. R. Rannels, C. S. Fisher, L. J. Heuser, and D. E. Rannels</i>	C759
Interleukin 1 and tumor necrosis factor do not regulate protein balance in skeletal muscle <i>L. L. Moldawer, G. Svaninger, J. Gelin, and K. G. Lundholm</i>	C766
[³ H]protein secretion in rat parotid gland: substance P-β-adrenergic synergism <i>C. Dreux, V. Imhoff, and B. Rossignol</i>	C774
Fluorescence detection of mitochondrial clusters in mammalian white fat cells in vivo <i>F. D. DeMartinis, K. T. Ashkin, and K. T. Lampe</i>	C783
Uptake and degradation of natural surfactant by isolated rat granular pneumocytes <i>A. B. Fisher, A. Chander, and J. Reichert</i>	C792
Effects of low calcium levels on erythropoietin production by human renal carcinoma cells in culture <i>K. Nagakura, M. Ueno, J. Brookins, B. S. Beckman, and J. W. Fisher</i>	C797
Regulation of chloride secretion in dog tracheal epithelium by protein kinase C <i>R. A. Barthelson, D. B. Jacoby, and J. H. Widdicombe</i>	C802
Regulation of the atrial natriuretic peptide receptor on a smooth muscle cell <i>R. J. Hughes, R. S. Struthers, A. M. Fong, and P. A. Insel</i>	C809
Measurement of cytoplasmic free Ca ²⁺ concentration in bovine tracheal smooth muscle using aequorin <i>Y. Takuwa, N. Takuwa, and H. Rasmussen</i>	C817
Effect of phorbol ester and calcium ionophore on chloride secretion in canine tracheal epithelium <i>M. J. Welsh</i>	C828
Role of laminin in maintenance of type II pneumocyte morphology and function <i>S. R. Rannels, J. A. Yarnell, C. S. Fisher, J. P. Fabisiak, and D. E. Rannels</i>	C835

Biochemical and subcellular distribution of arachidonic acid in rat myocardium <i>Y. Miyazaki, R. W. Gross, B. E. Sobel, and J. E. Saffitz</i>	C846
Alteration of intestinal tight junction structure and permeability by cytoskeletal contraction <i>J. L. Madara, R. Moore, and S. Carlson</i>	C854
Isozymes of dog heart Na ⁺ -K ⁺ -ATPase are immunologically similar to isozymes in brain <i>A. A. McDonough and C. A. Schmitt</i>	C862
Effects of inhibition of mitochondrial protein synthesis in skeletal muscle <i>R. S. Williams and W. Harlan</i>	C866
Interaction of angiotensin II with functional smooth muscle cells in culture <i>S. Paglin, H. Stukenbrok, N. C. Joyce, and J. D. Jamieson</i>	C872
Volume-sensitive Cl-dependent K transport in human erythrocytes <i>W. C. O'Neill</i>	C883
Noradrenergic stimulation of mitochondriogenesis in brown adipocytes differentiating in culture <i>M. Néchad, J. Nedergaard, and B. Cannon</i>	C889
<hr/>	
<i>Subject Index to Volume 22</i>	C895
<i>Author Index to Volume 22</i>	C903

CORRIGENDA

Volume 252, May 1987

Volume 21, May 1987

Page C483: T. L. Trosper and K. D. Philipson. "Lactate transport by cardiac sarcolemmal vesicles." Page C483: the first sentence of paragraph 2 should read: Recent reports of lactate uptake by isolated cardiac myocytes (14) and perfused hearts (2, 16) presented evidence suggesting that lactate traversal of the cardiac sarcolemma is mediated by a carrier specific for monocarboxylic acids. Page C485: Fig. 1 legend should read: L-Lactate uptake into sarcolemmal vesicles as a function of time at room temperature. 1 mM L-lactate in external medium; vesicles loaded with 280 mM sucrose, pH 7.4. External media: 112 mM NaCl, 56 mM sucrose, pH 7.4, with (closed circles) or without (open circles) 5 μM monensin; or 280 mM sucrose, pH 7.4 (×) or 5.9 (open squares). Data points on upper curves are means ± SD of 3 or more experiments. Lower curves are averages of 2 experiments. *Inset:* L-lactate uptake at short times from NaCl plus monensin, pH 7.4. Page C485: last line of Fig. 3 legend should read: Slope, which is least-squares fit of the data, gives apparent K_m for L-lactate of 27 mM. Page C489: References 2, 14, and 16 should read:

2. DENNIS, S. C., M. C. COHN, G. J. ANDERSON, AND D. GARFINKEL. Kinetic analysis of monocarboxylate uptake into perfused rat hearts. *J. Mol. Cell. Cardiol.* 17: 987-995, 1985.
14. KAMMERMEIER, H., B. WEIN, AND W. GRAF. Characteristics of lactate transport in isolated cardiac myocytes. *Basic Res. Cardiol.* 80, Suppl. 1: 57-60, 1985.
16. MANN, G. E., B. V. ZLOKVIC, AND D. L. YUDILEVICH. Evidence for a lactate transport system in the sarcolemmal membrane of the perfused rabbit heart. *Biochim. Biophys. Acta* 819: 241-246, 1985.

American Journal of Physiology: Endocrinology and Metabolism

No. 1. JULY 1987

EDITORIAL REVIEW

Lipid transport function of lipoproteins in blood plasma

R. J. Havel

E1

Static mechanical properties of lungs from adrenalectomized pneumonectomized rats

R. A. Bennett, J. L. Addison, and D. E. Rannels

E6

Kinetics of glucose transport in rat muscle: effects of insulin and contractions

T. Ploug, H. Galbo, J. Vinten, M. Jørgensen, and E. A. Richter

E12

Stimulation of proteoglycans by IGF I and II in microvessel and large vessel endothelial cells

R. S. Bar, B. L. Dake, and S. Stueck

E21

Pertussis toxin inhibits somatostatin-induced K⁺ conductance in human pituitary tumor cells

N. Yamashita, I. Kojima, N. Shibuya, and E. Ogata

E28

Increased uptake and phosphorylation of 2-deoxyglucose by skeletal muscles in endotoxin-treated rats

K. Mészáros, G. J. Bagby, C. H. Lang, and J. J. Spitzer

E33

Effects of fasting on serum lactogenic hormone concentrations during mid- and late pregnancy in mice

P. J. Fielder, L. Ogren, D. Edwards, and F. Talamantes

E40

Parathyroid hormone acutely elevates intracellular calcium in osteoblastlike cells

I. R. Reid, R. Civitelli, L. R. Halstead, L. V. Avioli, and K. A. Hruska

E45

Decreased myofibrillar proteolysis after refeeding requires dietary protein or amino acids

M. N. Goodman and M. Del Pilar Gomez

E52

Triacylglycerol kinetics in endotoxic rats with suppressed lipoprotein lipase activity

G. J. Bagby, C. B. Corll, and R. R. Martinez

E59

β-Adrenergic blockade and intravenous nutrient-induced thermogenesis in lean and obese women

O. Vernet, C.-A. Nacht, L. Christin, Y. Schutz, E. Danforth, Jr., and E. Jequier

E65

A potential mechanism of DL-β-hydroxybutyrate-induced malformations in mouse embryos

E. S. Hunter III, T. W. Sadler, and R. E. Wynn

E72

A translational inhibitor from muscles of diabetic rats: identification as histone H1

N. E. O'Leary, W. B. Mehard, I. R. Cheema, K. Moore, and M. G. Buse

E81

H⁺ stimulation of cell-mediated bone resorption in tissue culture

P. Goldhaber and L. Rabadjija

E90

1,25-Dihydroxyvitamin D₃ target cells in immature pancreatic islets

S. A. Clark, W. E. Stumpf, M. Sar, and H. F. DeLuca

E99

Effect of magnesium depletion on metabolism of 25-hydroxyvitamin D in rats

T. O. Carpenter, D. L. Carnes, Jr., and C. S. Anast

E106

MODELING METHODOLOGY FORUM

Spare receptors, partial agonists, and ternary complex model of drug action

L. D. Homer and T. B. Nielsen

E114

ANNOUNCEMENTS

E122

No. 2. AUGUST 1987

Altered glucose kinetics in diabetic rats during Gram-negative infection <i>C. H. Lang, C. Dobrescu, G. J. Bagby, and J. J. Spitzer</i>	E123
IP ₃ -dependent Ca ²⁺ release in permeabilized hepatocytes of endotoxemic and septic rats <i>J. A. Spitzer and I. V. Deaciuc</i>	E130
Energy expenditure after infusion of glucose-based total parenteral nutrition <i>K. M. Gil, J. Askanazi, D. H. Elwyn, F. E. Gump, and J. M. Kinney</i>	E135
Insulin resistance during suckling period in rats <i>T. Issad, C. Coupe, P. Ferre, and J. Girard</i>	E142
Brown adipose tissue metabolism in ob/ob mice: effects of a high-fat diet and adrenalectomy <i>H.-K. Kim and D. R. Romsos</i>	E149
Comparison of glucose and glucose plus lipid as caloric sources in parenterally fed rats <i>S. Lanza-Jacoby, A. Tabares, H. S. Sitren, and E. Kosar</i>	E158
Thyroid autoregulation: impact on thyroid structure and function in rats <i>C. Penel, J. B. Rognoni, and P. Bastiani</i>	E165
Sample site selection for tracer studies applying a unidirectional circulatory approach <i>D. K. Layman and R. R. Wolfe</i>	E173
Cold exposure potentiates the effect of insulin on in vivo glucose uptake <i>A. L. Vallerand, F. Pérusse, and L. J. Bukowiecki</i>	E179
Evaluation of a parathyroid hormone antagonist in an in vivo multiparameter bioassay <i>N. Horiuchi and M. Rosenblatt</i>	E187
Fasting-mediated alteration studies in insulin action on lipolysis and lipogenesis in obese women <i>P. Arner and P. Engfeldt</i>	E193
Sarcolemmal Ca ²⁺ transport in streptozotocin-induced diabetic cardiomyopathy in rats <i>N. Makino, K. S. Dhalla, V. Elimban, and N. S. Dhalla</i>	E202
Hyperglucagonemia during insulin deficiency accelerates protein catabolism <i>K. S. Nair, D. Halliday, D. E. Matthews, and S. L. Welle</i>	E208
Heat production during contraction in skeletal muscle of hypothyroid mice <i>W. J. Leijendekker, C. van Hardeveld, and G. Elzinga</i>	E214

RAPID COMMUNICATIONS

A dual mechanism for regulation of kidney phosphate transport by parathyroid hormone <i>J. A. Cole, S. L. Eber, R. E. Poelling, P. K. Thorne, and L. R. Forte</i>	E221
A microdialysis method allowing characterization of intercellular water space in humans <i>P. Lönnroth, P.-A. Jansson, and U. Smith</i>	E228

No. 3. SEPTEMBER 1987

Ionophore A23187 partially reverses LH secretory defect of pituitary cells from old rats <i>R. S. Chuknyiska, M. R. Blackman, and G. S. Roth</i>	E233
Nervous control of glycogenolysis and blood flow in arterially and portally perfused liver <i>A. Gardemann, H. Strulik, and K. Jungermann</i>	E238
A primed-infusion technique for rapid estimation of the metabolic clearance rate of 1,25(OH) ₂ D ₃ <i>R. Eastell, B. L. Riggs, and R. Kumar</i>	E246
Long-latency growth-promoting activity of EGF when administered to mice at the neonatal stage <i>O. Imada, N. Hayashi, K. Masamoto, S. Kasuga, T. Fuwa, and S. Nakagawa</i>	E251
Optimal response of key enzymes and uncoupling protein to cold in BAT depends on local T ₃ generation <i>A. C. Bianco and J. E. Silva</i>	E255
Diet-induced thermogenesis in cafeteria-fed rats: a myth? <i>G. M. Maxwell, S. Nobbs, and D. J. Bates</i>	E264

Pathophysiology of type A hypoxic lactic acidosis in dogs <i>A. I. Arieff and H. Graf</i>	E271
Age-associated alterations in hepatic β -adrenergic receptor/adenylate cyclase complex <i>S. M. Graham, P. A. Herring, and I. J. Arinze</i>	E277
Plasma catecholamine and serum cortisol responses to experimental cardiac arrest in dogs <i>P. J. Foley, W. A. Tacker, J. Wortsman, S. Frank, and P. E. Cryer</i>	E283
Evidence for cAMP as a mediator of gonadotropin secretion from female pituitaries <i>G. A. Bourne and D. M. Baldwin</i>	E290
Evidence for cAMP as a mediator of gonadotropin secretion from male pituitaries <i>G. A. Bourne and D. M. Baldwin</i>	E296
Dissociation of in vitro sensitivities of glucose transport and antilipolysis to insulin in NIDDM <i>H. Yki-Järvinen, K. Kubo, J. Zawadzki, S. Lillioja, A. Young, W. Abbott, and J. E. Foley</i>	E300
Muscle glycogen repletion during active postexercise recovery <i>E. M. Peters Futre, T. D. Noakes, R. I. Raine, and S. E. Terblanche</i>	E305
Distribution of free and sulfate-conjugated catecholamines in human platelets <i>R. K. McCulloch, R. Vandongen, A. M. Tunney, L. J. Beilin, and P. B. Rogers</i>	E312
Differences between in vitro and in vivo degradation of LHRH by rat brain and other organs <i>F. A. Carone, M. A. Stetler-Stevenson, V. May, A. LaBarbera, and G. Flouret</i>	E317
Physiological increments in epinephrine stimulate metabolic rate in humans <i>M. A. Staten, D. E. Matthews, P. E. Cryer, and D. M. Bier</i>	E322

No. 4 OCTOBER 1987

Reversal of the exercise-induced increase in muscle permeability to glucose <i>D. A. Young, H. Wallberg-Henriksson, M. D. Sleeper, and J. O. Holloszy</i>	E331
Effects of food restriction on lactate production from glucose by rat adipocytes <i>S. V. Thacker, M. Nickel, and M. DiGirolamo</i>	E336
Control of compensatory lung growth by adrenal hormones <i>D. E. Rannels, H. W. Karl, and R. A. Bennett</i>	E343
Dynamic peripheral nerve metabolic and vascular responses to exsanguination <i>M. Takeuchi and P. A. Low</i>	E349
Neuroanatomic localization of the inhibitory effect of TRH on growth hormone secretion <i>K. Ishikawa, H. Katakami, and L. A. Frohman</i>	E354
Patterns of glycogen turnover in liver characterized by computer modeling <i>J. H. Youn and R. N. Bergman</i>	E360
Clenbuterol-induced muscle growth: investigation of possible mediation by insulin <i>M. A. McElligott, J. E. Mulder, L.-Y. Chaung, and A. Barreto, Jr.</i>	E370
Hyperglycemia stimulates carbohydrate oxidation in humans <i>H. Yki-Järvinen, C. Bogardus, and B. V. Howard</i>	E376
Acute adaptation in adrenergic control of lipolysis during physical exercise in humans <i>H. Wahrenberg, P. Engfeldt, J. Bolinder, and P. Arner</i>	E383
Absence of detectable phosphocreatine in rat luteal cells <i>J. C. Cross, L. K. Soodak, B. Musicki, and H. R. Behrman</i>	E391
Altered contractile proteins in skeletal muscle of diabetic rats <i>P. K. Ganguly, Y. Taira, V. Elimban, M. Roy, and N. S. Dhalla</i>	E395
Maternal-fetal communication of circadian phase in a precocious rodent, the spiny mouse <i>D. R. Weaver and S. M. Reppert</i>	E401
Myometrial desensitization after ritodrine infusion <i>S. N. Caritis, J. P. Chiao, J. J. Moore, and S. M. Ward</i>	E410
Effect of superfused insulin on cerebral cortical glucose utilization in awake goats <i>D. A. Pelligrino, D. J. Miletich, and R. F. Albrecht</i>	E418

Effects of leucine, isoleucine, or threonine infusion on leucine metabolism in humans <i>W. F. Schwenk and M. W. Haymond</i>	E428
Effect of somatostatin on glucose homeostasis in conscious long-fasted dogs <i>R. W. Stevenson, K. E. Steiner, G. K. Hendrick, and A. D. Cherrington</i>	E435
Effect of somatostatin on nonesterified fatty acid levels modifies glucose homeostasis during fasting <i>G. K. Hendrick, R. T. Frizzell, and A. D. Cherrington</i>	E443
Metabolites of 2-deoxyglucose in rat brain at 12–24 h: bounds on kinetic constants <i>L. Bass, W. Bodsch, P. J. Robinson, and M. O. Young</i>	E453
Increased glucose dependence in resting, iron-deficient rats <i>G. A. Brooks, S. A. Henderson, and P. R. Dallman</i>	E461
Type I receptors in parotid, colon, and pituitary are aldosterone selective in vivo <i>K. Sheppard and J. W. Funder</i>	E467

LETTERS TO THE EDITOR

Measuring lactate production <i>W. C. Stanley and G. A. Brooks</i>	E472
---	------

ANNOUNCEMENTS	E474
----------------------	------

No. 5. NOVEMBER 1987

Restricted passage of insulin across capillary endothelium in perfused rat adipose tissue <i>S. S. Chernick, R. J. Gardiner, and R. O. Scow</i>	E475
Thermic effect of food: possible implication of parasympathetic nervous system <i>C. A. Nacht, L. Christin, E. Temler, R. Chiolero, E. Jéquier, and K. J. Acheson</i>	E481
Improved insulin action in muscle, liver, and adipose tissue in physically trained human subjects <i>K. J. Rodnick, W. L. Haskell, A. L. M. Swislocki, J. E. Foley, and G. M. Reaven</i>	E489
Study of ketone body kinetics in children by a combined perfusion of ^{13}C and $^2\text{H}_3$ tracers <i>P.-F. Bougnères and P. Ferre</i>	E496
Blood Ca^{2+} modulates responsiveness of renal $25(\text{OH})\text{D}_3$ - 1α -hydroxylase to PTH in rats <i>T. Matsumoto, K. Ikeda, K. Morita, S. Fukumoto, H. Takahashi, and E. Ogata</i>	E503
Periodic interactions of GH-releasing factor and somatostatin can augment GH release in vitro <i>J. Weiss, M. J. Cronin, and M. O. Thorner</i>	E508
Sympathetic activity in brown adipose tissue in lactating mice <i>P. Trayhurn and M. C. Wusterman</i>	E515
Hormonal control of postprandial thermogenesis in dogs <i>P. Diamond and J. LeBlanc</i>	E521
Regulation of mitochondrial adenine nucleotide content in newborn rabbit liver <i>P. C. Tullson and J. R. Aprille</i>	E530
Rat hepatic mRNA-S14 and lipogenic enzymes during weaning: role of S14 in lipogenesis <i>A. Perez-Castillo, H. L. Schwartz, and J. H. Oppenheimer</i>	E536
Regulation of urea production by glucose infusion in vivo <i>F. Jahoor and R. R. Wolfe</i>	E543
Models to interpret kinetic data in stable isotope tracer studies <i>C. Cobelli, G. Toffolo, D. M. Bier, and R. Nosadini</i>	E551
Endogenous opioids may mediate secondary damage after experimental brain injury <i>T. K. McIntosh, R. L. Hayes, D. S. DeWitt, V. Agura, and A. I. Faden</i>	E565
Regional amino acid transport into brain during diabetes: effect of plasma amino acids <i>A. M. Mans, M. R. DeJoseph, D. W. Davis, and R. A. Hawkins</i>	E575

MODELING METHODOLOGY FORUM

Reconstructing the rate of appearance of subcutaneous insulin by deconvolution <i>C. Cobelli, A. Mari, S. Del Prato, S. De Kreutzenberg, R. Nosadini, and I. Jensen</i>	E584
--	------

RAPID COMMUNICATIONS

- GRF elevates cytosolic free calcium concentration in rat anterior pituitary cells
C. Schöfl, J. Sandow, and W. Knepel

E591

No. 6. DECEMBER 1987

Modified protocols improve insulin sensitivity estimation using the minimal model <i>Y. J. Yang, J. H. Youn, and R. N. Bergman</i>	E595
Effect of intestinal factors on extraction of insulin in perfused rat liver <i>T. Ikeda, T. Yoshida, M. Honda, Y. Ito, I. Murakami, O. Mokuda, M. Tominaga, and H. Mashiba</i>	E603
Leucine metabolism in human newborns <i>S. C. Denne and S. C. Kalhan</i>	E608
Hyperglycemia and hyperinsulinemia increase glucose utilization in fetal rat tissues <i>A. Leturque, J.-P. Revelli, S. Hauguel, J. Kande, and J. Girard</i>	E616
Cellular and subcellular distribution of exogenously administered renal renin in rat liver and kidney <i>S. Kim, H. Iwao, N. Nakamura, F. Ikemoto, K. Yamamoto, V. Mizuhira, and J. Yokofujita</i>	E621
Modulation of receptors and adenylate cyclase activity during sucrose feeding, food deprivation, and cold exposure <i>P. J. Scarpace, L. A. Baresi, and J. E. Morley</i>	E629
Leucine metabolism in perfused rat skeletal muscle during contractions <i>D. A. Hood and R. L. Terjung</i>	E636
Effect of endurance training on leucine metabolism in perfused rat skeletal muscle <i>D. A. Hood and R. L. Terjung</i>	E648
Alterations in glucose kinetics induced by pentobarbital anesthesia <i>C. H. Lang, G. J. Bagby, D. M. Hargrove, P. M. Hyde, and J. J. Spitzer</i>	E657
Effect of carbohydrate intake on de novo lipogenesis in human adipose tissue <i>C. Chascione, D. H. Elwyn, M. Davila, K. M. Gil, J. Askanazi, and J. M. Kinney</i>	E664
Carbonic anhydrase activity of chick osteoclasts is increased by parathyroid hormone <i>S. F. Silverton, S. J. Dodgson, M. D. Fallon, and R. E. Forster II</i>	E670
Involvement of vitamin D ₃ with cardiovascular function. II. Direct and indirect effects <i>R. E. Weishaar and R. U. Simpson</i>	E675
Glucagon infusion increases rate of purine synthesis de novo in rat liver <i>M. Itakura, N. Maeda, M. Tsuchiya, and K. Yamashita</i>	E684

MODELING METHODOLOGY FORUM

Effect of sampling site on early kinetics of blood radioiodide and pertechnetate <i>M. T. Hays, L. J. Carr, and J. M. Turrel</i>	E691
---	------

RAPID COMMUNICATIONS

Definition of a prenatal sensitive period for maternal-fetal communication of day length <i>D. R. Weaver, J. T. Keohan, and S. M. Reppert</i>	E701
--	------

<i>Subject Index to Volume 16</i>	E705
<i>Author Index to Volume 16</i>	E711

CORRIGENDA

Volume 250, June 1986
Volume 13, June 1986

Page E622: E. Cersosimo, P. E. Williams, P. M. Radosevich, B. T. Hoxworth,
W. W. Lacy, and N. N. Abumrad. "Role of glutamine in adaptations in nitrogen
metabolism during fasting." *Page E626:* Fig. 3, top panel, label should read
Arterial Ammonia (mg/dl).

American Journal of Physiology: Gastrointestinal and Liver Physiology

No. 1. JULY 1987

Relationship between ornithine decarboxylase activity and gastric damage <i>C. H. R. Thirumalai, C.-C. Tseng, K. Tabata, L. R. Fitzpatrick, and L. R. Johnson</i>	G1
Prejunctional inhibition of vasoactive intestinal peptide release <i>J. R. Grider and G. M. Makhlouf</i>	G7
Corelease of PHI and VIP by vagal stimulation in the dog <i>A. Yasui, S. Naruse, C. Yanaihara, T. Ozaki, M. Hoshino, T. Mochizuki, E. E. Daniel, and N. Yanaihara</i>	G13
Intestinal capillary filtration in experimental diabetes mellitus <i>R. J. Korthuis, V. H. Pitts, and D. N. Granger</i>	G20
Intestinal hyperemia in experimental diabetes mellitus <i>R. J. Korthuis, J. N. Benoit, P. R. Kvietys, M. H. Laughlin, A. E. Taylor, and D. N. Granger</i>	G26
Degradation of endogenous heptadecapeptide gastrin by endopeptidase 24.11 in the pig <i>D. M. Power, N. Bennett, A. J. Turner and R. Dimaline</i>	G33
Oxygen metabolite-induced cytotoxicity to cultured rat gastric mucosal cells <i>H. Hiraishi, A. Terano, S.-I. Ota, K. J. Ivey, and T. Sugimoto</i>	G40
A role for iron in oxidant-mediated ischemic injury to intestinal microvasculature <i>L. A. Hernandez, M. B. Grisham, and D. N. Granger</i>	G49
Rapid adaptation of intestinal glucose transport: a brush-border or basolateral phenomenon? <i>W. H. Karasov and E. S. Debnam</i>	G54
Potential mediation of somatostatin secretion from canine fundic D-cells by protein kinase c <i>T. Chiba, K. Sugano, J. Park, and T. Yamada</i>	G62
Effect of maturation on gastrointestinal absorption of epidermal growth factor in rats <i>W. Thornburg, R. K. Rao, L. M. Matrisian, B. E. Magun, and O. Koldovský</i>	G68
Pyloric contribution to antroduodenal resistance to flow in the conscious dog <i>F. Mearin, F. Azpiroz, and J.-R. Malagelada</i>	G72
Three-dimensional imaging of the stomach: role of pylorus in the emptying of liquids <i>D. Kumar, E. L. Ritman, and J.-R. Malagelada</i>	G79
Age-dependent biliary excretion of glutathione-related thiols in rats: role of γ -glutamyltransferase <i>Z. Gregus, A. F. Stein, and C. D. Klaassen</i>	G86

RAPID COMMUNICATIONS

Interaction between oxygen radicals and gastric mucin <i>M. B. Grisham, C. Von Ritter, B. F. Smith, J. T. Lamont, and D. N. Granger</i>	G93
--	-----

LETTERS TO THE EDITOR

Basal pancreatic secretion <i>D. F. Magee; S. Konturek</i>	G97
---	-----

No. 2. AUGUST 1987

Monoclonal antibody localization of $\text{Na}^+ \text{-K}^+$ -ATPase in the exocrine pancreas and parotid of the dog <i>Z. D. J. Smith, M. J. Caplan, B. Forbush III, and J. D. Jamieson</i>	G99
Glucagon and insulin metabolism in a portal-hypertensive rat model <i>E. Sikuler, J. Polio, R. J. Groszmann, and R. Hender</i>	G110

Cardiac receptor modulation of blood flow and fluid transport in feline jejunum <i>H. Sjövall, P. Butcher, J. Martner, and H. Sellden</i>	G116
Comparative influences of acoustic and cold stress on gastrointestinal transit in mice <i>M. Gue, J. Fioramonti, and L. Bueno</i>	G124
Gastric injury induced by hemorrhage, local ischemia, and oxygen radical generation <i>S. S. Wadhwa and M. A. Perry</i>	G129
Kinetics of transepithelial movement of heavy metals in rat jejunum <i>E. C. Foulkes and D. M. McMullen</i>	G134
Endocrine pancreatic morphology and function in exocrine insufficiency in rats <i>B. Göke, K. Elsebach, W. Hausmann, M. Schaar, R. Arnold, and G. Adler</i>	G139
Splanchnic circulatory changes during development of renal hypertension <i>G. A. Meininger, J. N. Benoit, E. Z. Ostrowska, and S. K. Muckleroy</i>	G146
Acid secretion in isolated guinea pig colon <i>Y. Suzuki and K. Kaneko</i>	G155
Reflex decreases in intragastric pressure in response to cholecystokinin in rats <i>H. E. Raybould, M. E. Roberts, and G. J. Dockray</i>	G165
Short-chain fatty acid transport and its effects on ion transport by rabbit cecum <i>M. Hatch</i>	G171
Exogenous opiates: their local mechanisms of action in the canine small intestine and stomach <i>J. E. T. Fox and E. E. Daniel</i>	G179
Activation of endogenous excitatory opiate pathways in canine small intestine by field stimulation and motilin <i>J. E. T. Fox and E. E. Daniel</i>	G189
Alterations in protein transport events in rat liver after estrogen treatment <i>M. A. Goldsmith, A. L. Jones, B. J. Underdown, and J. M. Schiff</i>	G195
Effect of intestinal denervation on intestinal vascular response to severe arterial hypoxia in newborn swine <i>P. T. Nowicki, D. A. Caniano, and K. Szaniszlo</i>	G201
Effect of gastrin-releasing peptide analogues on gastrin and somatostatin release from isolated rat stomach <i>Y.-S. Guo, L. Mok, C. W. Cooper, G. H. Greeley, Jr., J. C. Thompson, and P. Singh</i>	G206
Aldosterone-induced, amiloride-inhibitable short-circuit current in the avian ileum <i>B. R. Grubb and P. J. Bentley</i>	G211
Secretion of lingual lipase and amylase from rat lingual serous glands <i>R. B. Field and A. R. Hand</i>	G217
Role of opioid neurons in the regulation of intestinal peristalsis <i>J. R. Grider and G. M. Makhlouf</i>	G226
Uncoupling of the secretory pathways for IgA and secretory component by cholestasis <i>T. M. Kloppel, T. C. Hoops, D. Gaskin, and M. Le</i>	G232
Central nervous system action of corticotropin-releasing factor to inhibit gastric emptying in rats <i>Y. Taché, M. Maeda-Hagiwara, and C. M. Turkelson</i>	G241
Effect of luminal or circulating nitrite on colonic ion movement in the rat <i>B. C. Radcliffe, S. H. Nance, E. J. Deakin, and W. E. W. Roediger</i>	G246

LETTERS TO THE EDITOR

Is resting anal pressure primarily due to myogenic tone of the internal anal sphincter? <i>P. D. Meunier, S. Rattan, and P. J. Culver</i>	G253
--	------

ANNOUNCEMENTS

G256

EDITORIAL**Motility's morass***N. W. Weisbrodt and W. A. Weems*

G257

Motor patterns of small intestine determined by closely spaced extraluminal transducers and videofluoroscopy <i>H.-J. Ehrlein, M. Schemann, and M.-L. Siegle</i>	G259
Distribution and partitioning of cholesterol and β -sitosterol in micellar bile salt solutions <i>K. Chijiwa</i>	G268
Hormonal effects on development of the secretory apparatus of chief cells <i>C.-C. Tseng, K. L. Schmidt, and L. R. Johnson</i>	G274
Hormonal effects on development of the secretory apparatus of parietal cells <i>C.-C. Tseng, K. L. Schmidt, and L. R. Johnson</i>	G284
Stimulation-induced changes in cytosolic calcium in rat parotid acini <i>B. Nauntofte and S. Dissing</i>	G290
Inhibitory action of peptide YY on gastric acid secretion <i>Y.-S. Guo, M. Fujimura, F. Lluis, Y. Tsong, G. H. Greeley, Jr., and J. C. Thompson</i>	G298
Stimulation of ornithine decarboxylase activity in digestive tract mucosa <i>R. Jain, B. E. Eikenburg, and L. R. Johnson</i>	G303
Coupling of guanine nucleotide inhibitory protein to somatostatin receptors on pancreatic acinar membranes <i>C. Sakamoto, T. Matozaki, M. Nagao, and S. Baba</i>	G308
Responses of feline gastroesophageal junction to changes in abdominal pressure <i>J. T. Boyle, S. M. Altschuler, T. E. Nixon, A. I. Pack, and S. Cohen</i>	G315
Muscarinic receptor subtypes mediating the mucosal response to neural stimulation of guinea pig ileum <i>H. V. Carey, X.-Y. Tien, L. J. Wallace, and H. J. Cooke</i>	G323
Effect of systemic acid-base balance on ileal secretion <i>D. S. Goldfarb, P. M. Ingrassia, and A. N. Charney</i>	G330
Localization of cholesterol synthesis along the villus-crypt axis in diabetic rats <i>K. R. Feingold and A. H. Moser</i>	G336
Influence of sacral nerves on the internal anal sphincter of the opossum <i>S. Rattan and R. Shah</i>	G345
Hepatic taurine transport: a Na^+ -dependent carrier on the basolateral plasma membrane <i>J. C. Bucuvalas, A. L. Goodrich, and F. J. Suchy</i>	G351
Conservative and nonconservative inhibitors of gastric acid secretion <i>E. B. M. Ekblad and V. Ličko</i>	G359
Brain-gut interactions: brain stem neuronal response to local gastric effects of substance P <i>W. D. Barber and T. F. Burks</i>	G369
Distribution of β -adrenoceptors associated with cAMP-generating system in cat colon <i>K. Taniyama, T. Kuno, and C. Tanaka</i>	G378
Involvement of calmodulin-calcium complex in regulation of O_2 uptake in regions of the liver lobule <i>H. Yoshihara and R. G. Thurman</i>	G383
Fructose prevents hypoxic cell death in liver <i>I. Anundi, J. King, D. A. Owen, H. Schneider, J. J. Lemasters, and R. G. Thurman</i>	G390
Luminal digestion of lactoferrin in suckling and weanling rats <i>J. R. Britton and O. Koldovský</i>	G397
Evidence for carrier-mediated Cl-SO_4 exchange in rabbit ileal basolateral membrane vesicles <i>C. M. Schron, R. G. Knickelbein, P. S. Aronson, and J. W. Dobbins</i>	G404

RAPID COMMUNICATIONS

- Vasoactive intestinal peptide stimulates protein phosphorylation in a colonic epithelial cell line
J. A. Cohn

G420

ANNOUNCEMENTS

G425

No. 4. OCTOBER 1987

Short-chain fatty acids stimulate motility of the canine ileum <i>P. S. Kamath, M. T. Hoepfner, and S. F. Phillips</i>	G427
Role of somatostatin neurons in intestinal peristalsis: facilitatory interneurons in descending pathways <i>J. R. Grider, A. Arimura, and G. M. Makhlouf</i>	G434
Role of the hepatic branch of the vagus nerve in liver regeneration in rats <i>K. Tanaka, S. Ohkawa, T. Nishino, A. Niijima, and S. Inoue</i>	G439
Receptor-mediated internalization and secretion of cholecystokinin into rat pancreatic duct fluid <i>R. S. Izzo and M. Praissman</i>	G445
Interdigestive contractile patterns of the ileum in dogs <i>M.-L. Siegle and H.-J. Ehrlein</i>	G452
Bicarbonate sulfate exchange in canalicular rat liver plasma membrane vesicles <i>P. J. Meier, J. Valantinas, G. Hugentobler, and I. Rahm</i>	G461
Calcium-calmodulin-stimulated protein kinase in developing pancreas <i>F. S. Gorelick, A. Chang, and J. D. Jamieson</i>	G469
Detection of cholecystokinin-58 in human blood by inhibition of degradation <i>G. A. Eberlein, V. E. Eysselein, W. H. Hesse, H. Goebell, M. Schaefer, and J. R. Reeve, Jr.</i>	G477
Taurodeoxycholate and the developing rabbit distal colon: absence of secretory effect <i>G. D. Potter, R. Lester, S. M. Burlingame, P. A. Mitchell, and K. L. Schmidt</i>	G483
Intestinal adaptations of rainbow trout to changes in dietary carbohydrate <i>R. K. Buddington and J. W. Hilton</i>	G489
Histamine H ₂ -receptor of human and rabbit parietal cells <i>R. Leth, B. Elander, U. Haglund, L. Olbe, and E. Fellenius</i>	G497
Glycine-extended progastrin processing intermediates: accumulation and cosecretion with gastrin <i>K. Sugano, J. Park, W. O. Dobbins, and T. Yamada</i>	G502
Subcellular redistribution of lysosomal enzymes during caerulein-induced pancreatitis <i>A. Saluja, S. Hashimoto, M. Saluja, R. E. Powers, J. Meldolesi, and M. L. Steer</i>	G508
Intracellular transport of pancreatic zymogens during caerulein supramaximal stimulation <i>I. Saito, S. Hashimoto, A. Saluja, M. L. Steer, and J. Meldolesi</i>	G517
Mechanism for high PCO ₂ in gastric juice: roles of bicarbonate secretion and CO ₂ diffusion <i>M. H. Stevens, R. C. Thirlby, and M. Feldman</i>	G527
Inhibitory control of proximal colonic motility by the sympathetic nervous system <i>R. A. Gillis, J. D. Souza, K. A. Hicks, A. W. Mangel, F. D. Pagani, B. L. Hamilton, T. Q. Garvey III, D. G. Pace, R. K. Browne, and W. P. Norman</i>	G531
Mediators of anaphylaxis-induced ion transport changes in small intestine <i>G. A. Castro, Y. Harari, and D. Russell</i>	G540
Variations in rat mesenteric tissue thickness due to microvasculature <i>B. J. Barber, J. Oppenheimer, D. C. Zawieja, and H. A. Zimmermann</i>	G549

Synergism between cellular messengers and agonist combinations
in pepsinogen secretion

*H. Matsumoto, K. E. J. Dickinson, T. Shirakawa, K. Komiyama, and
B. I. Hirschowitz*

G557

Differential effects of [Gln^4]neurotensin on circular and longitudinal muscle
of dog ileum in vitro

M. Karaus, K. R. Prasad, S. K. Sarna, and I. M. Lang

G566

SPECIAL COMMUNICATIONS

Hybrid blood flow probe for simultaneous H_2 clearance and laser-Doppler velocimetry

G. R. DiResta, J. W. Kiel, G. L. Riedel, P. Kaplan, and A. P. Shepherd

G573

RAPID COMMUNICATIONS

Corticotropin-releasing factor directly mediates colonic responses to stress

C. L. Williams, J. M. Peterson, R. G. Villar, and T. F. Burks

G582

No. 5 NOVEMBER 1987

Determinants of resting and passive intestinal vascular pressures in rat and rabbit

H. G. Bohlen

G587

Increased lymphocyte transport by lipid absorption in rat mesenteric lymphatics

*S. Miura, E. Sekizuka, H. Nagata, C. Oshio, H. Minamitani, M. Suematsu,
M. Suzuki, Y. Hamada, K. Kobayashi, H. Asakura, and M. Tsuchiya*

G596

γ -Aminobutyric acid stimulates acid secretion from the isolated guinea pig stomach

L. H. Tsai, K. Taniyama, and C. Tanaka

G601

Somatostatin inhibits cAMP-mediated cholinergic transmission in the myenteric plexus

J. Wiley and C. Owyang

G607

Effects of chlorpromazine on $\text{Na}^+ \cdot \text{K}^+$ -ATPase pumping and solute transport

in rat hepatocytes

R. W. Van Dyke and B. F. Scharschmidt

G613

Effect of epidermal growth factor on growth and postnatal development of
the rabbit liver

*K. Opleta, E. V. O'Loughlin, E. A. Shaffer, J. Hayden, M. Hollenberg, and
D. G. Gall*

G622

Oxygen radicals stimulate guinea pig gallbladder glycoprotein secretion in vitro

W. B. Hale, B. Turner, and J. T. LaMont

G627

A carrier-mediated, Na^+ gradient-dependent transport for biotin in human intestinal
brush-border membrane vesicles

H. M. Said, R. Redha, and W. Nylander

G631

Is leucine an allosteric modulator of the lysine transporter in the
intestinal basolateral membrane?

K. Lawless, D. Maenz, and C. Cheeseman

G637

GRP nerves in pig antrum: role of GRP in vagal control of gastrin secretion

*J. J. Holst, S. Knuhtsen, C. Ørskov, T. Skak-Nielsen, S. S. Poulsen, S. L. Jensen,
and O. V. Nielsen*

G643

Altered sensitivity of the gallbladder to cholecystokinin octapeptide in
irritable bowel syndrome

J. E. Kellow, L. J. Miller, S. F. Phillips, A. R. Zinsmeister, and J. W. Charboneau

G650

[^3H]QNB binding and contraction of rabbit colonic smooth muscle cells

*M. J. Ringer, P. E. Hyman, H. W. Kao, C. T. Hsu, T. Tomomasa, and
W. J. Snape, Jr.*

G656

Enhancement of intestinal growth in neonatal rats by epidermal growth factor in milk

C. L. Berseth

G662

Receptors for substance P on isolated intestinal smooth muscle cells of the guinea pig

J.-C. Souquet, K. N. Bitar, J. R. Grider, and G. M. Makhlouf

G666

Effect of chloroquine on intestinal lipid metabolism

C. M. Mansbach II, A. Arnold, and M. Garrett

G673

Influence of motilin and cholecystokinin on sphincter of Oddi and duodenal motility <i>E. L. Muller, P. A. Grace, R. L. Conter, J. J. Roslyn, and H. A. Pitt</i>	G679
Somatostatin and muscarinic inhibition of canine enteric endocrine cells: cellular mechanisms <i>D. L. Barber, M. Gregor, and A. H. Soll</i>	G684
Secretagogue-induced changes in intracellular pH and amylase release in mouse pancreatic acini <i>K. J. Carter, P. L. Rutledge, M. L. Steer, and W. Silen</i>	G690
Giant migrating contractions and their myoelectric correlates in the small intestine <i>S. K. Sarna</i>	G697

RAPID COMMUNICATIONS

Pancreatic polypeptide inhibits pancreatic enzyme secretion via a cholinergic pathway <i>G. Jung, D. S. Louie, and C. Owyang</i>	G706
---	------

No. 6. DECEMBER 1987

Zymogen granule acidity is not required for stimulated pancreatic protein secretion <i>R. C. De Lisle and J. A. Williams</i>	G711
Neural regulation of gastrin and somatostatin secretion in rat gastric antral mucosa <i>M. L. Schubert and G. M. Makhlof</i>	G721
Sympathetic control of motility, fluid transport, and transmural potential difference in the rabbit ileum <i>B. Greenwood, L. Tremblay, and J. S. Davison</i>	G726
Bile salt absorption in killifish intestine <i>R. E. Honkanen and J. S. Patton</i>	G730
Opiate activity and transepithelial passage of intact β -casomorphins in rabbit ileum <i>D. Tome, A.-M. Dumontier, M. Hautefeuille, and J.-F. Desjeux</i>	G737
Temporal changes in mechanical properties of rat jejunal smooth muscle after myenteric plexus ablation <i>J. R. Herman and P. Bass</i>	G745
Differential intestinal absorption of two fatty acid isomers: elaidic and oleic acids <i>A. Bernard, B. Echinard, and H. Carlier</i>	G751
Contraction mediated by Ca^{2+} influx in esophageal muscle and by Ca^{2+} release in the LES <i>P. Biancani, C. Hillemeier, K. N. Bitar, and G. M. Makhlof</i>	G760
GRP-producing nerves control antral somatostatin and gastrin secretion in pigs <i>J. J. Holst, S. Knuhtsen, C. Ørskov, T. Skak-Nielsen, S. S. Poulsen, and O. Vagn Nielsen</i>	G767
T_{44} cell receptor binding and guanyl cyclase activation by <i>Escherichia coli</i> heat-stable toxin <i>A. Guarino, M. Cohen, M. Thompson, K. Dharmasathaphorn, and R. Giannella</i>	G775
Role of rat intestinal brush-border membrane angiotensin-converting enzyme in dietary protein digestion <i>M. Yoshioka, R. H. Erickson, J. F. Woodley, R. Gulli, D. Guan, and Y. S. Kim</i>	G781
Intact biliary excretion of gastrically administered prostaglandin $F_{2\alpha}$ in rats: developmental differences <i>A. D. Bedrick, M. A. Wells, D. L. Ford, and O. Koldovský</i>	G787
Characterization of gastrin receptors on guinea pig pancreatic acini <i>D.-H. Yu, M. Noguchi, Z.-C. Zhou, M. L. Villanueva, J. D. Gardner, and R. T. Jensen</i>	G793
Hormonal regulation of adaptive intestinal growth in artificially reared rat pups <i>K.-Y. Yeh, M. Yeh, and P. R. Holt</i>	G802
Chronic alterations in jejunal myoelectric activity in rats due to MPTP <i>E. Y. Eaker, G. B. Bixler, A. J. Dunn, W. V. Moreshead, and J. R. Mathias</i>	G809
Identification of a single sinusoidal bile salt uptake system in skate liver <i>G. Fricker, G. Hugentobler, P. J. Meier, G. Kurz, and J. L. Boyer</i>	G816

RAPID COMMUNICATIONS

Histamine increases phosphorylation of 27- and 40-kDa parietal cell proteins

C. S. Chew and M. R. Brown

G823

Subject Index to Volume 16

G831

Author Index to Volume 16

G839

CORRIGENDA

Volume 252, May 1987

Volume 15, May 1987

Page G662: Terri F. Apfelbaum, Nicholas O. Davidson, and Robert M. Glickman. "Apolipoprotein A-IV synthesis in rat intestine: regulation by dietary triglyceride." *Page G663:* sentence beginning on line 10, second column, should read "Data are expressed as mean \pm 1 SD, and comparisons for both paired and unpaired means were made by Students *t* test."

American Journal of Physiology: Heart and Circulatory Physiology

No. 1. JULY 1987

Vasopressin facilitates inhibition of renal nerve activity mediated through vagal afferents <i>B. N. Gupta, A. L. Abboud, J. S. Floras, P. E. Aylward, and F. M. Abboud</i>	H1
Modification of sarcolemmal phosphatidylethanolamine N-methylation during heart hypertrophy <i>V. Panagia, K. Okumura, K. R. Shah, and N. S. Dhalla</i>	H8
Conduction blocks in and around preferential pathway of dog right atrium <i>K. Yamashita, M. Hiraoka, and H. Adaniya</i>	H16
Metabolic mediation of single brief diastolic occlusion reactive hyperemic responses <i>N. Sadick, G. P. Dubé, P. A. McHale, and J. C. Greenfield, Jr.</i>	H25
Relation between oxygen consumption and pressure-volume area of in situ dog heart <i>T. Nozawa, Y. Yasumura, S. Futaki, N. Tanaka, Y. Igarashi, Y. Goto, and H. Suga</i>	H31
Stimulation of myocardial coenzyme A degradation by fatty acids <i>G. D. Lopaschuk and J. R. Neely</i>	H41
Nonuniformity of CBF response to NE- or ANG II-induced hypertension in rabbits <i>A.-M. Reynier-Rebuffel, P. Aubineau, O. Issertial, and J. Seylaz</i>	H47
Increased vascular resistance during complement-activated plasma infusion in swine <i>L. J. Swenson, G. A. Pantely, C. G. Anselone, and J. D. Bristow</i>	H58
Free and conjugated catecholamines in dog pulmonary artery: presence and pharmacological action <i>D. K. Rorie and G. M. Tyce</i>	H66
Biaxial mechanical properties of human pericardium and canine comparisons <i>M.-C. Lee, Y. C. Fung, R. Shabetai, and M. M. LeWinter</i>	H75
Description of LV pressure-volume relations by time-varying elastance and a source resistance <i>W. C. Little and G. L. Freeman</i>	H83
Inhibition of renal sympathetic nervous activity by area postrema stimulation in rabbits <i>E. M. Hasser, D. O. Nelson, J. R. Haywood, and V. S. Bishop</i>	H91
Postnatal changes in critical cardiac output and oxygen transport in conscious lambs <i>J. T. Fahey and G. Lister</i>	H100
Substrate use in ischemic and reperfused canine myocardium: quantitative considerations <i>D. W. Myears, B. E. Sobel, and S. R. Bergmann</i>	H107
Effects of reducing $[Na^+]$ on catecholamine-induced delayed afterdepolarizations in atrial cells <i>G.-N. Tseng and A. L. Wit</i>	H115
Peripheral circulatory control of preload-afterload mismatch with angiotensin in dogs <i>R. W. Lee, L. D. Lancaster, D. Buckley, and S. Goldman</i>	H126
Primary resetting of left atrial sensory endings in Dahl salt-sensitive rats fed a low-salt diet <i>P. Thoren, D. A. Morgan, and A. L. Mark</i>	H133
Effects of regional denervation on epicardial DC electrograms during coronary occlusion in pigs <i>J. Cinca, A. Bardaji, J. Figueras, A. Salas-Caudilla, A. Serrano, and J. Rius</i>	H138
Reflectance measurements of hematocrit and oxyhemoglobin saturation <i>J. M. Steinke and A. P. Shepherd</i>	H147
Quantitative analysis of arteriolar network architecture in cat sartorius muscle <i>A. Koller, B. Dawant, A. Liu, A. S. Popel, and P. C. Johnson</i>	H154
Role of adenosine in regulation of cerebral blood flow: effects of theophylline during normoxia and hypoxia <i>S. Morii, A. C. Ngai, K. R. Ko, and H. R. Winn</i>	H165

SPECIAL COMMUNICATIONS

- Validity of microsphere depositions for regional myocardial flows
*J. B. Bassingthwaite, M. A. Malone, T. C. Moffett, R. B. King, S. E. Little,
J. M. Link, and K. A. Krohn* H184
- Integral-mass balance method for determination of solvent drag reflection coefficient
M. B. Wolf, P. D. Watson, and D. R. Scott II H194

RAPID COMMUNICATIONS

- Effect of phorbol esters on contractile state and calcium flux in cultured chick heart cells
G. F. Leatherman, D. Kim, and T. W. Smith H205
- Rectification of muscarinic K⁺ current by magnesium ion in guinea pig atrial cells
M. Horie and H. Irisawa H210

No. 2. AUGUST 1987

EDITORIAL

- V. S. Bishop* H215

- Brachial arterial changes in response to wrist occlusion in normotensive and hypertensive men
J. Levenson, A. Simon, and I. Pithois-Merli H217
- Protective effect of transient calcium reduction against reperfusion-induced arrhythmias in rat hearts
A. Tosaki and D. J. Hearse H225
- Selective inhibition of endothelium-dependent dilation in resistance-sized vessels in vivo
U. Pohl, L. Dézsi, B. Simon, and R. Busse H234
- Transmural anoxic wave front and regional dysfunction during early ischemia
H. Kanaide, Y. Taira, and M. Nakamura H240
- Mg inhibits voltage and tension oscillation but potentiates twitch in depolarized myocardium
T. Ito and T. Ehara H248
- Post-reextension force decay of relaxing cardiac muscle
S. U. Sys, W. J. Paulus, V. A. Claes, and D. L. Brutsaert H256
- Altered cardiac polyamine biosynthesis in spontaneously hypertensive rats
H. Ruskoaho and H. Raurio H262
- Red blood cell catecholamine levels in normotensive and DOCA-salt hypertensive rats
M. Bouvier, L. Farley, and J. de Champlain H270
- Enhanced myocardial depression in diabetic rats during *E. coli* sepsis
K. H. McDonough, R. W. Barbee, C. Dobrescu, C. H. Lang, and J. J. Spitzer H276
- Measurement of interstitial fluid pressure in dogs: evaluation of methods
H. Wiig, R. K. Reed, and K. Aukland H283
- Volume-pressure relationship (compliance) of interstitium in dog skin and muscle
H. Wiig and R. K. Reed H291
- Nonhuman primate model for regional wave travel and reflections along aortas
R. D. Latham, B. J. Rubal, N. Westerhof, P. Sipkema, and R. A. Walsh H299
- Intramyocardial blood volume change in first moments of cardiac arrest in anesthetized goats
I. Vergroesen, M. I. M. Noble, and J. A. E. Spaan H307
- Coronary input impedance during cardiac cycle as determined by impulse response method
G. A. Van Huis, P. Sipkema, and N. Westerhof H317
- Time course of aerobic recovery after contraction of rabbit papillary muscle
F. Mast and G. Elzinga H325

Postpacing tachycardia: autonomic involvement <i>J. M. Loeb, J. M. deTarnowsky, M. R. Warner, and C. C. Whitson</i>	H333
Effects of L-thyroxine in rats with chronic heart failure after myocardial infarction <i>R. Gay, T. A. Gustafson, S. Goldman, and E. Morkin</i>	H341
Chronic pressure overload hypertrophy decreases direct ventricular interaction <i>B. K. Slinker, A. C. P. Chagas, and S. A. Glantz</i>	H347
Dopaminergic stimulation of cAMP accumulation in cultured rat mesangial cells <i>P. J. Shultz, J. R. Sedor, and H. E. Abboud</i>	H358
Effects of α -adrenergic blockade on coronary autoregulation in dogs <i>C. E. Jones, I. Y. S. Lieng, and P. A. Guirz</i>	H365
Action potential duration in ventricular muscle during selective metabolic block <i>H. Hayashi, T. Watanabe, and T. F. McDonald</i>	H373
Left ventricular function in malnutrition <i>P. B. Alden, R. D. Madoff, T. J. Stahl, D. J. Lakatua, W. S. Ring, and F. B. Cerra</i>	H380
Coronary vasoconstriction mediated by α_1 - and α_2 -adrenoceptors in conscious dogs <i>O. L. Woodman and S. F. Vatner</i>	H388
Atrioventricular responses of canine heart following chronic unilateral vagotomy <i>D. V. Priola, C. Anagnostelis, C. Sanchez-Wilson, and T. M. Blomquist</i>	H394
Length-dependent sensitivity of vascular smooth muscle in normotensive and hypertensive animals <i>E. Coskinas and J. M. Price</i>	H402
Temporal relation between energy metabolism and myocardial function during ischemia and reperfusion <i>K. Clarke, A. J. O'Connor, and R. J. Willis</i>	H412
Coronary vasodilator reserve persists despite tachycardia and myocardial ischemia <i>J. D. Bristow, E. O. McFalls, C. G. Anselone, and G. A. Pantely</i>	H422
Tunneling cell processes in myocytes of stretched mouse atria <i>E. Page, G. E. Goings, B. Power, and J. Upshaw-Earley</i>	H432
Myocardial adaptation to chronic propranolol therapy in normal rats <i>F. S. Fein, B. Zola, B. Miller, A. Malhotra, and E. H. Sonnenblick</i>	H444
Effect of MCA occlusion on brain O_2 supply and consumption determined microspectrophotometrically <i>E. Buchweitz-Milton and H. R. Weiss</i>	H454
Effects of elevation of phosphocreatine on force and metabolism in rabbit aorta <i>D. P. Scott, S. Davidheiser, and R. F. Coburn</i>	H461
Regulation of arterial pressure lability in rats with chronic sinoaortic deafferentation <i>R. H. Alper, H. J. Jacob, and M. J. Brody</i>	H466
Quantitative comparison of canine right and left ventricular isovolumic pressure waves <i>D. Burkhoff, M. W. Kronenberg, D. T. Yue, W. L. Maughan, W. C. Hunter, and K. Sagawa</i>	H475
Microlesion formation in myocardial cells by high-intensity electric field stimulation <i>J. L. Jones, R. E. Jones, and G. Balasky</i>	H480

No. 3. SEPTEMBER 1987

Frequency-dependent myocardial depression induced by verapamil in conscious dogs <i>R. J. Applegate, R. A. Walsh, and R. A. O'Rourke</i>	H487
AVP-induced pulmonary vasodilation during specific V_1 receptor block in conscious dogs <i>D. P. Nyhan, P. W. Clougherty, and P. A. Murray</i>	H493
Adrenergic effects on internal cardiac defibrillation threshold <i>M. F. Rattes, A. D. Sharma, G. J. Klein, T. Szabo, and D. L. Jones</i>	H500
Central opioid mechanisms and cardiovascular control in hemorrhagic hypotension <i>P. Sandor, W. de Jong, V. Wiegant, and D. de Wied</i>	H507
Relaxation time constant of isolated rabbit left ventricle <i>P. Schiereck, J. H. M. Nieuwenhuys, E. L. de Beer, M. W. J. van Hessen, F. A. M. van Kaam, and A. Crowe</i>	H512
Effects of thyroid state on respiration of perfused rat and guinea pig hearts <i>L. C. Read, P. G. Wallace, and M. N. Berry</i>	H519

Effect of area postrema lesion on low-frequency arterial pressure oscillations in dogs <i>F. E. Pollick, K. L. Barnes, and C. M. Ferrario</i>	H524
Changes in adrenergic pressor responses by calcium channel modulation in conscious dogs <i>J. C. Wynsen, G. J. Gross, H. L. Brooks, and D. C. Warltier</i>	H531
Blood viscosity in small tubes: effect of shear rate, aggregation, and sedimentation <i>W. Reinke, P. Gaehtgens, and P. C. Johnson</i>	H540
Effects of aminophylline on behaviorally induced coronary blood flow increases <i>G. E. Billman</i>	H548
Hypoxia, bradykinin, and prostaglandins stimulate ischemically sensitive visceral afferents <i>J. C. Longhurst and L. E. Dittman</i>	H556
Coordinated diameter oscillations at arteriolar bifurcations in skeletal muscle <i>J.-U. Meyer, L. Lindbom, and M. Intaglietta</i>	H568
Dexamethasone potentiates hypoxic vasoconstriction in salt solution-perfused rat lungs <i>J. Herget and I. F. McMurtry</i>	H574
Functional significance of α -adrenergic receptors in mature coronary collateral circulation of dogs <i>Y. Maruoka, M. D. McKirnan, R. L. Engler, and J. C. Longhurst</i>	H582
Tachycardia of carotid chemoreceptors originates in apneic asphyxia in dogs <i>P. D. Gupta and M. Singh</i>	H591
Aortic arch reflex of total systemic vascular capacity <i>A. A. Shoukas, M. J. Brunner, A. S. Greene, and C. L. MacAnespie</i>	H598
Calcium channel blockers induce preferential coronary vasodilation by an α_1 -mechanism <i>D. R. Knight and S. F. Vatner</i>	H604
Little carbon dioxide diffusional shunting in coronary circulation <i>S. A. Katz and E. O. Feigl</i>	H614
Role of eicosanoids in hypoxic vasoconstriction in isolated lamb lungs <i>J. U. Raj and P. Chen</i>	H626
Lung morphological and permeability changes induced by intravascular coagulation in dogs <i>F. L. Minnear, D. Martin, L. Hill, A. E. Taylor, and A. B. Malik</i>	H634
Dynamics of cardiac muscle: analysis of isotonic, isometric, and isochronal curves <i>O. N. Nwasokwa</i>	H645
Effects of albumin concentration on endothelial albumin transport in vitro <i>D. M. Shasby and M. W. Peterson</i>	H654
Metabolism and electrophysiology in subendocardial Purkinje fibers after infarction <i>K. G. Lurie, T. M. Argentieri, J. Sheldon, L. H. Frame, and F. M. Matschinsky</i>	H662

SPECIAL COMMUNICATIONS

Use of ultrasound for noninvasive study of blood vessel responsiveness <i>G. J. Stewart, M. C. Ziskin, R. G. Schaub, R. E. Cartee, C. M. Philips, E. A. Stone, and D. W. Manuel</i>	H671
--	------

MODELING METHODOLOGY FORUM

Hemodynamic fluctuations and baroreflex sensitivity in humans: a beat-to-beat model <i>R. W. deBoer, J. M. Karemaker, and J. Strackee</i>	H680
Modeling mechanical alternans in the beating heart: advantages of a systems-oriented approach <i>D. Adler and Y. Mahler</i>	H690

RAPID COMMUNICATIONS

Role of neutrophils in ischemia-reperfusion-induced microvascular injury <i>L. A. Hernandez, M. B. Grisham, B. Twohig, K. E. Arfors, J. M. Harlan, and D. N. Granger</i>	H699
---	------

Quinidine-induced inhibition of transient outward current in cardiac muscle <i>Y. Imaizumi and W. R. Giles</i>	H704
Free radical-producing enzyme, xanthine oxidase, is undetectable in human hearts <i>L. J. Eddy, J. R. Stewart, H. P. Jones, T. D. Engerson, J. M. McCord, and J. M. Downey</i>	H709
<hr/>	
ANNOUNCEMENTS	H712
No. 4. OCTOBER 1987	
Regional ventricular segmental dynamics in normal conscious dogs <i>L. Hittinger, B. Crozatier, J.-P. Belot, and M. Pierrot</i>	H713
Electrophysiological properties of automatic fibers in rabbit atrioventricular valves <i>G. J. Rozanski</i>	H720
Baroreflex mechanisms buffering α -adrenergic agonists in conscious dogs <i>A. M. Fujii and S. F. Vatner</i>	H728
Twitch contractions during low Na^+ -induced $[\text{Ca}^{2+}]$ overload in rat ventricular muscle <i>H. Watanabe, N. Ishide, and T. Takishima</i>	H737
Direct platelet-fibrin interaction that does not require platelet activation <i>C. J. Jen and S. J. Hu</i>	H745
Hyperosmotic sodium salts reverse severe hemorrhagic shock: other solutes do not <i>M. Rocha e Silva, I. T. Velasco, R. I. Nogueira da Silva, M. A. Oliveira, G. A. Negraes, and M. A. Oliveira</i>	H751
Vasoconstrictor role for vasopressin in conscious, sodium-depleted rats <i>B. Jover, M. Dupont, A. Mimran, R. Woods, and B. McGrath</i>	H763
Left ventricular O_2 consumption and pressure-volume area in puppies <i>H. Suga, O. Yamada, Y. Goto, Y. Igarashi, Y. Yasumura, T. Nozawa, and S. Futaki</i>	H770
Depressor neurons in rabbit caudal medulla do not transmit the baroreceptor-vasomotor reflex <i>W. W. Blessing and J. O. Willoughby</i>	H777
Attenuation of baroreceptive mechanisms by cardiovascular sympathetic afferent fibers <i>T. G. Ruscone, F. Lombardi, G. Malfatto, and A. Malliani</i>	H787
Endothelium inhibits responses of rabbit carotid artery to adrenergic nerve stimulation <i>B. Tesfamariam, R. M. Weisbrod, and R. A. Cohen</i>	H792
Myocardial potassium uptake during α - and β -adrenoceptor stimulation <i>\varnothing. Ellingsen, \varnothing. A. Vengen, and A. Ilebekk</i>	H799
Carotid and aortic baroreceptor control of heart rate in conscious monkey <i>M. W. Barazanji and K. G. Cornish</i>	H811
Role of sympathetic nerves during developing cardiac hypertrophy in Grollman hypertensive rats <i>R. J. Tomanek, D. W. Carlson, P. J. Palmer, and R. K. Bhatnagar</i>	H818
Subendocardial segment length shortening at lateral margins of ischemic myocardium in dogs <i>K. P. Gallagher, R. A. Gerren, M. Choy, M. C. Stirling, and R. C. Dysko</i>	H826
Arterial pressure after chronic reductions in suprarenal aortic flow in fetal lambs <i>D. F. Anderson, C. M. Parks, and J. J. Faber</i>	H838
Limited capacity for renal vasodilatation in anesthetized diabetic rats <i>H. Ha and E. W. Dunham</i>	H845
Determination of pyridine nucleotide fluorescence from the perfused heart using an internal standard <i>A. P. Koretsky, L. A. Katz, and R. S. Balaban</i>	H856
Acetylcholine release by a stimulus train lowers atrial fibrillation threshold <i>D. E. Euler and P. J. Scanlon</i>	H863
Hypothermia reduces cerebral metabolic rate and cerebral blood flow in newborn pigs <i>D. W. Busija and C. W. Leffler</i>	H869
Aging of modulation of heart rate <i>D. C. Shannon, D. W. Carley, and H. Benson</i>	H874

Effect of ambient oxygen on cultured endothelial cells from different vascular beds <i>H. W. Farber, D. M. Center, and S. Rounds</i>	H878
Relaxation of canine coronary artery to electrical stimulation: limited role of free radicals <i>M. Feletou and P. M. Vanhoutte</i>	H884
Interaction of hypoxia and hypercapnia on cerebral hemodynamics and brain electrical activity in dogs <i>R. W. McPherson, D. Eimerl, and R. J. Traystman</i>	H890
Influence of reduced red cell deformability on regional blood flow <i>S. Simchon, K.-M. Jan, and S. Chien</i>	H898
Altered intracellular adrenoceptor distribution in myocardium of spontaneously hypertensive rats <i>C. J. Limas and C. Limas</i>	H904
Role of adenosine in noradrenergic neurotransmission in spontaneously hypertensive rats <i>E. K. Jackson</i>	H909
Rapidly recovered transient flow resistance: a newly discovered property of blood <i>D. E. McMillan, J. Strigberger, and N. G. Utterback</i>	H919
Role of catecholamines in mediating fetal blood volume decrease during acute hypoxia <i>R. A. Brace and C. Y. Cheung</i>	H927
Alterations in the microvasculature of one-kidney, one-clip hypertensive rats <i>H. Hashimoto, R. L. Prewitt, and C. W. Esfaw</i>	H933
Persistent fetal pulmonary hypoperfusion after acute hypoxia <i>S. H. Abman, F. J. Accurso, R. B. Wilkening, and G. Meschia</i>	H941
β -Receptor-mediated increase in cerebral blood flow during hypoglycemia <i>B. R. Hollinger and R. M. Bryan</i>	H949
Role of hypotension in decreasing cerebral blood flow in porcine endotoxemia <i>C. F. Miller, M. J. Breslow, R. M. Shapiro, and R. J. Traystman</i>	H956

SPECIAL COMMUNICATIONS

Double-barrel pipette system for microinjection <i>M. J. Davis and R. W. Gore</i>	H965
Canine AV nodal artery: anatomical variations and a detailed description of cannulation technique <i>T. Mitsuoka, A. Pelleg, E. L. Michelson, and L. S. Dreifus</i>	H968

RAPID COMMUNICATIONS

Acute resetting of arterial baroreflexes in hypertensive rats <i>C. M. Heesch and L. A. Carey</i>	H974
Hypertension in SHR rats: contribution of maternal environment <i>M. A. Cierpial and R. McCarty</i>	H980
Expression of single calcium channels in <i>Xenopus</i> oocytes after injection of mRNA from rat heart <i>J. R. Moorman, Z. Zhou, G. E. Kirsch, A. E. Lacerda, J. M. Caffrey, D. M.-K. Lam, R. H. Joho, and A. M. Brown</i>	H985

LETTERS TO THE EDITOR

Chronic vascular access for repeated blood sampling in the unrestrained rat <i>M. Giner, K. Snyder, and M. M. Meguid</i>	H992
---	------

No. 5. NOVEMBER 1987

INVITED REVIEW

Skeletal muscle blood flow capacity: role of muscle pump in exercise hyperemia <i>M. H. Laughlin</i>	H993
---	------

Changes in LV papillary muscle performance and myosin composition with aortic insufficiency in rats <i>C. S. Apstein, Y. Lecarpentier, J.-J. Mercadier, J.-L. Martin, F. Pontet, C. Wisnewsky, K. Schwartz, and B. Swynghedauw</i>	H1005
Lesions of A1 noradrenergic cells affect AVP release and heart rate during hemorrhage <i>G. A. Head, A. W. Quail, and R. L. Woods</i>	H1012
Electrical restitution process in dispersed canine cardiac Purkinje and ventricular cells <i>R. B. Robinson, P. A. Boyden, B. F. Hoffman, and K. W. Hewett</i>	H1018
Sarcolemmal Na ⁺ -Ca ²⁺ exchange activity in hearts subjected to hypoxia reoxygenation <i>I. M. C. Dixon, D. A. Eyolfson, and N. S. Dhalla</i>	H1026
Receptor-mediated effects of a PGH ₂ analogue (U 46619) on human platelets <i>T. A. Morinelli, S. Niewiarowski, J. L. Daniel, and J. B. Smith</i>	H1035
Release of atrial natriuretic factor from heart-lung preparations of inbred Dahl rats <i>M. O. Onwochei, R. M. Snajdar, and J. P. Rapp</i>	H1044
Participation of adrenoceptors in liver blood flow regulation in anesthetized dogs <i>N. Terada, S. Koyama, J. Horiuchi, and T. Takeuchi</i>	H1053
Differential vagal effects on antegrade vs. retrograde atrioventricular conduction <i>T. Mitsuoka, T. Mazgalev, L. S. Dreifus, and E. L. Michelson</i>	H1059
Fibrin has larger pores when formed in the presence of erythrocytes <i>M. E. Carr, Jr., and C. L. Hardin</i>	H1069
Mechanisms of endothelium-dependent vascular smooth muscle relaxation elicited by bradykinin and VIP <i>L. J. Ignarro, R. E. Byrns, G. M. Buga, and K. S. Wood</i>	H1074
Monophasic action potentials during induced hypothermia in hedgehog and guinea pig hearts <i>G. Duker, P.-O. Sjöquist, and B. W. Johansson</i>	H1083
Electrophysiological derangements induced by lipid peroxidation in cardiac tissue <i>H. Nakaya, N. Tohse, and M. Kanno</i>	H1089
Relationship of myocardial metabolism and coronary flow: dependence on extracellular calcium <i>W. L. Rumsey, D. F. Wilson, and M. Erecińska</i>	H1098
Sympathetic modulation of rabbit aortic baroreceptors in vitro <i>P. A. Munch and A. M. Brown</i>	H1106
Modulation of adrenergic responses in pressurized resistance arteries by flow <i>B. Tesfamariam and W. Halpern</i>	H1112
Arteriolar oxygen reactivity: where is the sensor? <i>W. F. Jackson</i>	H1120
Interactions in nucleus tractus solitarius between right and left carotid sinus nerves <i>R. B. Felder and C. M. Heesch</i>	H1127
α -ANP alters reflex control of lumbar and renal sympathetic nerve activity and heart rate <i>T. Imaizumi, A. Takeshita, H. Higashi, and M. Nakamura</i>	H1136
Force-length dependence of arterial lamellar, smooth muscle, and myofilament orientations <i>J. G. Walmsley and R. A. Murphy</i>	H1141
Relative importance of hypertension after coronary occlusion in chronic hypertensive dogs with LVH <i>T. Inou, W. C. Lamberth, Jr., S. Koyanagi, D. G. Harrison, C. L. Eastham, and M. L. Marcus</i>	H1148
Ischemia- and agonist-induced changes in α - and β -adrenergic receptor traffic in guinea pig hearts <i>A. S. Maisel, H. J. Motulsky, M. G. Ziegler, and P. A. Insel</i>	H1159
Neural, hemodynamic, and renal responses to stimulation of intestinal receptors <i>L. C. Weaver, S. Genovesi, A. Stella, and A. Zanchetti</i>	H1167
Polarity of arachidonic acid metabolism by bovine aortic endothelial cell monolayers <i>D. M. Shasby, L. L. Stoll, and A. A. Spector</i>	H1177

Phosphorylation potential and adenosine release during norepinephrine infusion in guinea pig heart <i>M.-X. He, R. D. Wangler, P. F. Dillon, G. D. Romig, and H. V. Sparks</i>	H1184
Adenosine and hypoxia effects on atrioventricular node of adult and neonatal rabbit hearts <i>M.-L. Young, B. M. Raiza, R. C. Tan, and R. W. Joyner</i>	H1192
Does inadequate oxygen delivery trigger pressor response to muscle hyperperfusion during exercise? <i>D. D. Sheriff, C. R. Wyss, L. B. Rowell, and A. M. Scher</i>	H1199
Platelet-collagen adhesion enhances platelet aggregation induced by binding of VWF to platelets <i>F. M. Laduca, W. R. Bell, and R. E. Bettigole</i>	H1208
High-energy phosphates and function in isolated, working rabbit hearts <i>E. D. Lewandowski, M. D. Devous, Sr., and R. L. Nunnally</i>	H1215
Inosine preserves ATP during ischemia and enhances recovery during reperfusion <i>M. D. Devous, Sr., and E. D. Lewandowski</i>	H1224
Neuropeptide Y is a potent vasoconstrictor and a cardiodepressant in rats <i>Z. Zukowska-Grojec, E. S. Marks, and M. Haass</i>	H1234
Interaction between cardiac chambers and thoracic pressure in intact circulation <i>R. Beyar, M. J. Hausknecht, H. R. Halperin, F. C. P. Yin, and M. L. Weisfeldt</i>	H1240
Cholinergic vasodilation of intracerebral arterioles in rats <i>R. G. Dacey, Jr., and J. E. Bassett</i>	H1253
Factors influencing myocardial response to metabolic acidosis in isolated rat hearts <i>T. A. Watters, M. F. Wendland, W. W. Parmley, T. L. James, E. H. Botwinick, S. T. Wu, R. Sievers, and J. Wikman-Coffelt</i>	H1261
Coronary hyperperfusion and myocardial metabolism in isolated and intact hearts <i>W. P. Miller, N. Shimamoto, S. H. Nellis, and A. J. Liedtke</i>	H1271
Development of coronary collateral circulation in left circumflex Ameroid-occluded swine myocardium <i>D. M. Roth, Y. Maruoka, J. Rogers, F. C. White, J. C. Longhurst, and C. M. Bloor</i>	H1279

SPECIAL COMMUNICATIONS

[¹⁴ C]iodoantipyrine and microsphere blood flow estimates in cat brain <i>F. J. Shuier, S. C. Jones, T. Fedora, and M. Reivich</i>	H1289
Cardiac output in adult and neonatal rats utilizing impedance cardiography <i>R. W. Gotshall, J. C. Breay-Pilcher, and B. D. Boelcskev</i>	H1298
Ascorbic acid: a nonradioactive extracellular space marker in canine heart <i>G.-H. Reil, R. Frombach, R. Kownatzki, W. Quante, and P. R. Lichtlen</i>	H1305
Modifications of electrode design for recording monophasic action potentials in animals and humans <i>M. E. Runnalls, P. M. I. Sutton, P. Taggart, and T. Treasure</i>	H1315

RAPID COMMUNICATIONS

Intracellular Ca ²⁺ and protein kinase C modulate K ⁺ current in guinea pig heart cells <i>N. Tohse, M. Kameyama, and H. Irisawa</i>	H1321
Altered endothelial cell-mediated arterial dilation in dogs with <i>D. immitis</i> infection <i>L. Kaiser, J. F. Williams, E. A. Meade, and H. V. Sparks</i>	H1325
Separation of Na-Ca exchange and transient inward currents in heart cells <i>Y. Shimoni and W. Giles</i>	H1330

ANNOUNCEMENTS

H1334

Hemodynamic monitoring for 24 h in unanesthetized rats <i>T. L. Smith, T. G. Coleman, K. A. Stanek, and W. R. Murphy</i>	H1335
Cerebral blood flow autoregulation during intracranial hypertension in hypoxic lambs <i>C. O. Borel, J. E. Backofen, R. C. Koehler, M. D. Jones, Jr., and R. J. Traystman</i>	H1342
Decreased lymphatic pumping after intravenous endotoxin administration in sheep <i>R. M. Elias, M. G. Johnston, A. Hayashi, and W. Nelson</i>	H1349
Quantification of calcium paradox in neonatal rat hearts <i>J. S. Elz and W. G. Nayler</i>	H1358
Intracellular calcium levels in phorbol ester-induced contractions of vascular muscle <i>M. J. Jiang and K. G. Morgan</i>	H1365
The iron chelator desferrioxamine attenuates postischemic ventricular dysfunction <i>R. Bolli, B. S. Patel, W.-X. Zhu, P. G. O'Neill, C. J. Hartley, M. L. Charlat, and R. Roberts</i>	H1372
Ventricular systolic interdependence: volume elastance model in isolated canine hearts <i>W. L. Maughan, K. Sunagawa, and K. Sagawa</i>	H1381
Role of contraction in the structure and growth of neonatal rat cardiocytes <i>T. A. Marino, L. Kuseryk, and I. K. Lauva</i>	H1391
Simultaneous measurement of calcium transients and motion in cultured heart cells <i>G. A. Peeters, V. Hlady, J. H. B. Bridge, and W. H. Barry</i>	H1400
Control of arterial pressure in conscious, sinoaortic-denervated sheep in normoxia and hypoxia <i>M. Miki, K. Miki, G. Hajduczok, D. Curran-Everett, and J. A. Krasney</i>	H1409
Improved cardiac cell excitation with symmetrical biphasic defibrillator waveforms <i>J. L. Jones, R. E. Jones, and G. Balasky</i>	H1418
Effects of left circumflex Ameroid constrictor placement on adrenergic innervation of myocardium <i>D. M. Roth, F. C. White, O. Mathieu-Costello, B. D. Guth, G. Heusch, C. M. Bloor, and J. C. Longhurst</i>	H1425
Impairment of endothelin-dependent responses of cerebral arterioles in chronic hypertension <i>W. G. Mayhan, F. M. Faraci, and D. D. Heistad</i>	H1435
Influence of acidosis on inotropic effect of catecholamines in newborn rabbit hearts <i>T. Nakanishi, H. Okuda, K. Kamata, M. Seguchi, M. Nakazawa, and A. Takao</i>	H1441
Atrial natriuretic peptide transcription, storage, and release in rats with myocardial infarction <i>R. E. Mendez, J. M. Pfeffer, F. V. Ortola, K. D. Bloch, S. Anderson, J. G. Seidman, and B. M. Brenner</i>	H1449
Ca^{2+} signals obtained with multiple indicators in mammalian vascular muscle cells <i>T. T. DeFeeo, G. M. Briggs, and K. G. Morgan</i>	H1456
Increased skin lymph protein clearance after a 6-h arterial bradykinin infusion <i>R. J. Mullins and R. W. Hudgens</i>	H1462
Preconditioning of ischemic myocardium: reperfusion-induced arrhythmias <i>K. Shiki and D. J. Hearse</i>	H1470
Prostacyclin reduces "preload" in conscious dogs via a vagal reflex mechanism <i>D. M. Nganele and T. H. Hintze</i>	H1477
Contractile function of isolated young and adult rat heart cells <i>R. A. Haworth, P. Griffin, B. Saleh, A. B. Goknur, and H. A. Berkoff</i>	H1484
Modulation of vascular smooth muscle sensitivity by preload and eicosanoid synthesis inhibition <i>J. T. Herlihy, A. Johns, and M. J. K. Harper</i>	H1492
Influence of intracellular acidosis on contractile function in the working rat heart <i>F. M. H. Jeffrey, C. R. Malloy, and G. K. Radde</i>	H1499
Modification of force-interval relations during early adaptation to pressure overload in dogs <i>B. Crozatier, L. Hittinger, and M. Chavance</i>	H1506

Effects of transplantation on atrioventricular nodal accommodation and hysteresis <i>I. C. Tuna, T. P. Barragy, M. Walker, T. Lillehei, J. W. Blatchford, C. Gornick, W. S. Ring, R. M. Bolman III, and D. G. Benditt</i>	H1514
Renal vascular reactivity to U 46619 and adrenergic agonists in Goldblatt hypertension <i>B. G. Zimmerman</i>	H1523
Effect of pressure and intimal damage on ^{131}I -albumin and [^{14}C]sucrose spaces in aorta <i>A. Tedgui and M. J. Lever</i>	H1530
Regulation of twitch tension in sheep cardiac Purkinje fibers during calcium overload <i>J. R. Berlin, M. B. Cannell, and W. J. Lederer</i>	H1540
Fluid exchange in skeletal muscle with viscoelastic blood vessels <i>J. Lee, E. P. Salathé, and G. W. Schmid-Schönbein</i>	H1548
Carnitine-acylcarnitine translocase in ischemia: evidence for sulfhydryl modification <i>D. F. Pauly, S. B. Yoon, and J. B. McMillin</i>	H1557
Age-related changes in adrenergic vasoconstrictor responses of the rat hindlimb <i>R. K. Handa and S. P. Duckles</i>	H1566
Endogenous prostaglandins selectively mask large arteriole constriction to angiotensin II <i>J. T. Fleming, P. L. Harris, and I. G. Joshua</i>	H1573
Increased heart rate accelerates norepinephrine washout from normal myocardium <i>R. J. Henning, J. Cheng, A. M. Bhat, and M. N. Levy</i>	H1581
Modulation of macromolecular permeability by immune complexes and a β -adrenocceptor stimulant <i>S. W. Adamski, J. J. Langone, and G. J. Grega</i>	H1586
Effect of cyclosporin on blood pressure and renin-aldosterone axis in rats <i>S. Lustig, N. Stern, P. Eggena, M. L. Tuck, and D. B. N. Lee</i>	H1596
Calmodulin antagonists depress calcium and potassium currents in ventricular and vascular myocytes <i>U. Klockner and G. Isenberg</i>	H1601

SPECIAL COMMUNICATIONS

Effects of atriopeptin III on isolated mesenteric resistance vessels from SHR and WKY <i>C. Cauvin, M. Tejerina, and C. van Breemen</i>	H1612
--	-------

RAPID COMMUNICATIONS

Angiotensin II binding sites in the conduction system of rat hearts <i>K. Saito, J. S. Gutkind, and J. M. Saavedra</i>	H1618
Atrial natriuretic factor in dogs with one-kidney, one-clip Goldblatt hypertension <i>K. M. Verburg, R. H. Freeman, D. Villarreal, and M. W. Brands</i>	H1623

<i>Subject Index to Volume 22</i>	H1629
<i>Author Index to Volume 22</i>	H1640

CORRIGENDA

Volume 253, July 1987
Volume 22, July 1987

Page H31: T. Nozawa, Y. Yasumura, S. Futaki, N. Tanaka, Y. Igarashi, Y. Goto, and H. Suga. "Relation between oxygen consumption and pressure-volume area of *in situ* dog heart." *Page H37: Fig. 6:* Although the last sentence of the legend states "*Solid lines* are linear regression lines, and inner and outer pairs of *dashed curves* around them are 95% confidence limits of regression lines and data points, respectively," these *dashed lines* show one standard deviation of both the slope of the regression line and the sampled data from the regression line. The authors forgot to multiply these standard deviation values by *t* value (2.069 for degrees of freedom = 23) for *P* = 0.05 in the computer software to obtain the 95% confidence limits. The other statistical results in Fig. 6 are correct.

Volume 253, July 1987
Volume 22, July 1987

Page H107: D. W. Myears, B. E. Sobel, and S. R. Bergmann. "Substrate use in ischemic and reperfused canine myocardium: quantitative considerations." *Page H109:* unit of measure for NEFA should be $\mu\text{mol/l}$ in Table 1.

Volume 253, October 1987
Volume 22, October 1987

Page H985: J. R. Moorman, Z. Zhou, G. E. Kirsch, A. E. Lacerda, J. M. Caffrey, D. M.-K. Lam, R. H. Joho, and A. M. Brown. "Expression of single calcium channels in *Xenopus* oocytes after injection of mRNA from rat heart." *Page H991:* the following should have been included in the acknowledgements: We are grateful to John Leonard and Terry Snutch for their help and advice with the oocyte expression system.

American Journal of Physiology: Regulatory, Integrative and Comparative Physiology

No. 1. JULY 1987

Evolution of mammalian endothermic metabolism: "leaky" membranes as a source of heat

P. L. Else and A. J. Hulbert

R1

Cholesterol content and water and solute permeabilities of kidney membranes from aging rats

J. Pratz, P. Ripoche, and B. Corman

R8

Changes in blood volume and plasma sodium concentration after water intake in rats

H. Nose, E. Sugimoto, T. Okuno, and T. Morimoto

R15

Concentration of adrenocortical hormones in relation to cation homeostasis in birds

J. Rosenberg and S. Hurwitz

R20

Effects of corticosterone on neurons of reticular formation in rats

G. L. Avanzino, R. Ermitio, P. Ruggeri, and C. E. Cogo

R25

Inhibition of VP and OT release by water in hypovolemia is independent of opioid peptides

L. M. Rosella-Dampman, R. D. Hartman, and J. Y. Summy-Long

R31

Adaptation to extreme ambient temperatures in cold-acclimated gerbils and mice

S. Oufara, H. Barré, J.-L. Rouanet, and J. Chatonnet

R39

Circadian rhythms of rabbits during restrictive feeding

B. Jilge, H. Hörmcke, and H. Stähle

R46

3-O-Methylglucose transport in soleus muscle of bacteremic rats

M. V. Westfall and M. M. Sayeed

R55

Acid-base status and electrolytes in red blood cells and plasma of turtles submerged at 3°C

L. A. Maginniss and B. M. Hitzig

R64

Leukocytic pyrogen effects on prostaglandins in hypothalamic tissue slices

I. M. Scott, R. H. Fertel, and J. A. Boulant

R71

Metabolism in lizards: low lactate turnover and advantages of heterothermy

M. Guppy, S. D. Bradshaw, B. Fergusson, I. A. Hansen, and C. Atwood

R77

Potassium secretion by nasal salt glands of desert lizard *Sauromalus obesus*

T. J. Shuttleworth, J. L. Thompson, and W. H. Dantzler

R83

Sympathetic alterations after midline medullary raphe lesions

R. B. McCall and L. T. Harris

R91

Effects of daily melatonin injections on activity rhythms of rats in constant light

M. J. Chesworth, V. M. Cassone, and S. M. Armstrong

R101

Regulation of drinking and vasopressin secretion: role of organum vasculosum laminae terminalis

T. N. Thrasher and L. C. Keil

R108

Development of postglucoprivic insulin-induced suckling and feeding in rats

C. L. Williams and E. M. Blass

R121

Significance of vessel size and type in vascular heat transfer

D. E. Lemons, S. Chien, L. I. Crawshaw, S. Weinbaum, and L. M. Jiji

R128

Afferent vagal stimulation, vasopressin, and nitroprusside alter cerebrospinal fluid kinin

G. R. Thomas, H. Thibodeaux, H. S. Margolius, J. G. Webb, and P. J. Privitera

R136

Recombinant tumor necrosis factor and interleukin 1 enhance slow-wave sleep

S. Shoham, D. Davenne, A. B. Cady, C. A. Dinarello, and J. M. Krueger

R142

Differential effect of stimulation of nucleus ambiguus on atrial and ventricular rates

M. E. Thompson, G. Felsten, J. Yavorsky, and B. H. Natelson

R150

Sucrose-induced obesity: effect of diet on obesity and brown adipose tissue

R. B. Kanarek, J. R. Aprille, E. Hirsch, L. Gaultiere, and C. A. Brown

R158

High-affinity substance P binding sites in rat esophagus plexus submucosus

C. J. Wiedermann, K. Sertl, and C. B. Pert

R167

Circadian pacemaker interferes with sleep onset at specific times each day:
role in insomnia

S. H. Strogatz, R. E. Kronauer, and C. A. Czeisler

R172

Role of brain serotonergic pathways and hypothalamus in regulation of renin secretion
E. Gotoh, K. Murakami, T. D. Bahnsen, and W. F. Ganong

R179

Regulation of anaerobic ATP-generating pathways in trout fast-twitch skeletal muscle
G. P. Dobson, W. S. Parkhouse, and P. W. Hochachka

R186

MODELING METHODOLOGY FORUM

Dimensional analysis does not determine a mass exponent for metabolic scaling

J. P. Butler, H. A. Feldman, and J. J. Fredberg

R195

RAPID COMMUNICATIONS

Pancreatic vagal nerve is receptive to somatostatin in rats

H. Nakabayashi, A. Niijima, Y. Kurata, Z.-Y. Jiang,
N. Usukura, and R. Takeda

R200

Adaptation of circadian rhythmicity to shift in light-dark cycle accelerated
by a benzodiazepine

O. van Reeth, and F. W. Turek

R204

No. 2. AUGUST 1987

Comparison of corticotropin-releasing factor and acetylcholine on catecholamine
secretion in dogs

W. C. Engeland, M. P. Lilly, T. O. Bruhn, and D. S. Gann

R209

Cadmium inhibition of Ca^{2+} uptake in rainbow trout gills

P. M. Verbost, G. Flik, R. A. C. Lock, and S. E. Wendelaar Bonga

R216

Cardiovascular and metabolic responses to temperature in *Coluber constrictor*
J. N. Stinner

R222

Adipocyte blood flow is decreased in obese Zucker rats

D. B. West, W. A. Prinz, A. A. Francendese, and M. R. C. Greenwood

R228

Effects of renal receptor activation on neurosecretory vasopressin cells

T. A. Day and J. Ciriello

R234

Role of cardiac nerves in response to head-out water immersion in conscious dogs

G. Hajduczok, K. Miki, S. K. Hong, J. R. Claybaugh, and J. A. Krasney

R242

Regional circulatory responses to head-out water immersion in conscious dogs

G. Hajduczok, K. Miki, J. R. Claybaugh, S. K. Hong, and J. A. Krasney

R254

Tyrosine transport in winter flounder intestine: interaction
with $\text{Na}^+ \text{-K}^+ \text{-}2\text{Cl}^-$ cotransport

M. W. Musch, F. M. McConnell, L. Goldstein, and M. Field

R264

Effect of stimulation of trigeminal ganglion on regional cerebral blood flow in cats

P. J. Goadsby and J. W. Duckworth

R270

Morphometry, histochemistry, and contractility of dystrophic hamster diaphragm

J. A. Burbach, E. H. Schlenker, and J. L. Johnson

R275

Dehydration and arginine vasotocin and angiotensin II in CSF and plasma
of Pekin ducks

D. A. Gray and E. Simon

R285

Organ-specific metabolism during freezing and thawing in a freeze-tolerant frog

K. B. Storey

R292

Substrate and O_2 fluxes during rest and exercise in a high-altitude-adapted
animal, the llama

P. W. Hochachka, T. P. Mommsen, J. H. Jones, and C. R. Taylor

R298

Effect of antipyretic drugs on circadian rhythm in body temperature of rats

W. E. Scales and M. J. Kluger

R306

Body composition, food intake, and brown fat thermogenesis in
pregnant Djungarian hamsters

J. E. Schneider and G. N. Wade

R314

Adrenal, thyroid, and testicular hormone rhythms in male golden hamsters on long and short days <i>J. E. Ottenweller, W. N. Tapp, D. L. Pitman, and B. H. Natelson</i>	R321
Patterns of reproductive hormone secretion in hibernating Turkish hamsters <i>J. M. Darrow, L. Yogeve, and B. D. Goldman</i>	R329
Effects of photoperiod on hibernation in castrated Turkish hamsters <i>B. D. Goldman and J. M. Darrow</i>	R337
Heart rate and body temperature during free diving of Weddell seals <i>R. D. Hill, R. C. Schneider, G. C. Liggins, A. H. Schuette, R. L. Elliott, M. Guppy, P. W. Hochachka, J. Qvist, K. J. Falke, and W. M. Zapol</i>	R344

MODELING METHODOLOGY FORUM

Allopurinol kinetics in humans as a means to assess liver function: comparison of different models <i>G. van Waeg, T. Groth, F. Niklasson, and C.-H. de Verdier</i>	R352
--	------

SPECIAL COMMUNICATIONS

Retrograde tracer technique for assessment of selective and total subdiaphragmatic vagotomies <i>T. L. Powley, E. A. Fox, and H.-R. Berthoud</i>	R361
---	------

RAPID COMMUNICATIONS

Amiloride-sensitive sodium channels and expression of sodium appetite in rats <i>I. L. Bernstein and C. J. Hennessy</i>	R371
Diuretic and natriuretic properties of prestegane B, a mammalian lignan <i>G. E. Plante, C. Prevost, A. Chainey, P. Braquet, and P. Sirois</i>	R375
Endogenous and exogenous cholecystokinin may reduce food intake by different mechanisms <i>G. Shillabeer and J. S. Davison</i>	R379

No. 3. SEPTEMBER 1987

Why do total-body decay curves of iodine-labeled proteins begin with a delay? <i>E. Regoeczi</i>	R383
Placental and renal control of plasma osmolality in chronically cannulated ovine fetus <i>M. K. Towstoless, M. Congiu, J. P. Coghlan, and E. M. Wintour</i>	R389
Hypothalamus and sodium-potassium pump activity in skeletal muscles of DOCA-hypertensive rats <i>T. Katafuchi, Y. Oomura, T. Maruyama, and N. Akaike</i>	R396
Ouabain binding in tadpole ventral skin I. Kinetics and effect on intracellular ions <i>D. H. Robinson and J. W. Mills</i>	R402
Ouabain binding in tadpole ventral skin II. Localization of Na pump sites <i>D. H. Robinson and J. W. Mills</i>	R410
Effects of hypothalamic stimulation and lesion on adrenal nerve activity <i>H. Yoshimatsu, Y. Oomura, T. Katafuchi, and A. Niijima</i>	R418
Effect of naloxone on regional cerebral blood flow during endotoxin shock in conscious rats <i>W. R. Law and J. L. Ferguson</i>	R425
Behavioral and metabolic effects of sucrose-supplemented feeding in hyperactive rats <i>E. D. Hendley, L. H. Conti, D. J. Wessel, E. S. Horton, and R. E. Musty</i>	R434
Further evidence for hepatic control of salt intake in rats <i>M. G. Tordoff, J. Schulkin, and M. I. Friedman</i>	R444
Roles of gill and red cell carbonic anhydrase in elasmobranch HCO_3^- and CO_2 excretion <i>E. R. Swenson and T. H. Maren</i>	R450
Size selectivity of blood-brain barrier permeability at various times after osmotic opening <i>P. J. Robinson and S. I. Rapoport</i>	R459

Responses of vasopressin and enkephalins to hemorrhage in adrenalectomized dogs <i>M. Inoue, T. Kimura, K. Matsui, K. Ota, M. Shoji, K. Iitake, and K. Yoshinaga</i>	R467
Glucose-induced norepinephrine levels and obesity resistance <i>B. E. Levin and A. C. Sullivan</i>	R475
Role of angiotensin in sodium appetite of sodium-deplete sheep <i>R. S. Weisinger, D. A. Denton, R. Di Nicolantonio, M. J. McKinley, A. F. Muller, and E. Tarjan</i>	R482
Adrenergic mediation of vasopressin secretion in newborn pigs <i>C. W. Leffler, D. W. Busija, L. Share, J. T. Crofton, D. P. Brooks, D. G. Beasley, R. S. Green, and R. Mirro</i>	R489
A role for the ventral surface of the medulla in regulation of nasal resistance <i>M. A. Haxhiu, K. P. Strohl, M. P. Norcia, E. van Lunteren, E. C. Deal, Jr., and N. S. Cherniack</i>	R494
Analysis of BP response and Ca^{2+} metabolism using the saturation kinetics model <i>N. Karanja, J. A. Metz, L. P. Mercer, and D. A. McCarron</i>	R501
Drinking, oropharyngeal signals, and inhibition of vasopressin secretion in dogs <i>T. N. Thrasher, L. C. Keil, and D. J. Ramsay</i>	R509
Neuropeptide Y increases food intake in mice <i>J. E. Morley, E. N. Hernandez, and J. F. Flood</i>	R516
Dynamic and static phases of obesity following lesions in PVN and VMH <i>M. Fukushima, K. Tokunaga, J. Lupien, J. W. Kemnitz, and G. A. Bray</i>	R523

MODELING METHODOLOGY FORUM

Optimal experiment design for nonlinear models subject to large prior uncertainties <i>E. Walter and L. Pronzato</i>	R530
---	------

No. 4. OCTOBER 1987

Insulin does not influence muscle glycogenolysis in adrenomedullated exercising rats <i>H. T. Yang, K. I. Carlson, and W. W. Winder</i>	R535
Blood volume restitution after hemorrhage in adult sheep <i>J. M. Grimes, L. A. Buss, and R. A. Brace</i>	R541
Effect of diltiazem on intercellular Ca^{2+} mobilization in hepatocytes during endotoxic shock <i>S. R. Maitra and M. M. Sayeed</i>	R545
Effect of diltiazem on altered cellular calcium regulation during endotoxic shock <i>M. M. Sayeed and S. R. Maitra</i>	R549
Glomerular filtration, renal blood flow, and solute excretion in conscious aging rats <i>B. Corman and J.-B. Michel</i>	R555
Cardiovascular and fluid responses to atrial natriuretic factor in sheep fetus <i>R. A. Brace and C. Y. Cheung</i>	R561
Partition of carotid baroreceptor response in two-kidney renal hypertensive dogs <i>E. Koushanpour and R. Behnia</i>	R568
Resistance to adipocyte hyperplasia in ground squirrels given high-fat diets <i>I. M. Faust and N. Mrosovsky</i>	R576
Protection against fat cell hyperplasia in a hibernator, <i>Glis glis</i> <i>N. Mrosovsky, P. Nash, and I. M. Faust</i>	R580
Micropuncture study of proximal tubule pH in avian kidney <i>G. Laverty and M. Alberici</i>	R587
Thyroid hormone depresses antioxidant enzyme maturation in fetal rat lung <i>I. R. Sosenko and L. Frank</i>	R592
Effects of endogenous atrial natriuretic peptide released by rapid atrial pacing in dogs <i>K. P. Walsh, T. D. M. Williams, R. Canepa-Anson, E. Pitts, S. L. Lightman, and R. Sutton</i>	R599
Interaction of vasopressin with area postrema during volume expansion <i>E. M. Hasser, K. P. Undesser, and V. S. Bishop</i>	R605
Differential effects of spinal transection on sympathetic nerve activities in rats <i>R. F. Taylor and L. P. Schramm</i>	R611

Elevated renal nerve activity after spinal transection: effects on renal function <i>J. W. Osborn, Jr., R. H. Livingstone, and L. P. Schramm</i>	R619
Cortical control of thermogenesis induced by lateral hypothalamic lesion and overeating <i>B. De Luca, M. Monda, M. P. Pellicano, and A. Zenga</i>	R626
Effects of parathyroid hormone on blood flow in different regional circulations <i>M. F. Crass III, C. L. Jayaseelan, and T. C. Darter</i>	R634
Vasopressin release in sheep following various degrees of rehydration <i>J. R. Blair-West, A. P. Gibson, S. J. Sheather, R. L. Woods, and A. H. Brook</i>	R640
Enhancement of quiet sleep in rabbit neonates by muramyl dipeptide <i>D. Davenne and J. M. Krueger</i>	R646
Calcium content of frog sciatic nerve during chronic hypocalcemia and hypercalcemia <i>K. C. Wadhani, H. Levitan, and S. I. Rapoport</i>	R655

RAPID COMMUNICATIONS

Cholecystokinin and gastric distension activate oxytocinergic cells in rat hypothalamus <i>L. P. Renaud, M. Tang, M. J. McCann, E. M. Stricker, and J. G. Verbalis</i>	R661
Intracellular pH of astrocytes increases rapidly with cortical stimulation <i>M. Chesler and R. P. Kraig</i>	R666

No. 5 NOVEMBER 1987

INVITED COMMENTARY

Osmoregulation and control of vasopressin secretion in healthy humans <i>P. H. Baylis</i>	R671
--	------

Distribution of glycolysis and gluconeogenesis in perfused chicken kidney <i>K. Yorita, T. Yamano, K. Ikeda, T. Kobayashi, M. Shiota, and T. Sugano</i>	R679
Role of motor center activity for hormonal changes and substrate mobilization in humans <i>M. Kjaer, N. H. Secher, F. W. Bach, and H. Galbo</i>	R687
Extracted and nonextracted atrial natriuretic peptide in rabbits during tachycardia <i>A. J. Rankin, J. R. Ledsome, R. Keeler, and N. Wilson</i>	R696
Hormone-controlled cAMP-mediated fluid secretion in yellow-fever mosquito <i>D. H. Petzel, M. M. Berg, and K. W. Beyenbach</i>	R701
Cardiovascular responses to chemical and electrical stimulation of amygdala in rats <i>A. J. Gelsema, D. J. McKittrick, and F. R. Calaresu</i>	R712
Pancreatic glucagon and cholecystokinin synergistically inhibit sham feeding in rats <i>J. Le Sauter and N. Gearn</i>	R719
Pressor sensitivity to vasopressin, angiotensin II, or methoxamine in diabetic rats <i>R. A. Hebdon, T. Bennett, and S. M. Gardiner</i>	R726
Transplacental clearance and blood flows of bovine gravid uterus at several stages of gestation <i>L. P. Reynolds and C. L. Ferrell</i>	R735
Effects of exercise training on energy balance of ovariectomized rats <i>R. Denis, L. Rochon, and Y. Deshaies</i>	R740
Delayed recycling of plasma FFA in mice: revised model of turnover and oxidation <i>N. Baker, M. Gan-Elepano, B. A. Guthrie, and J. F. Mead</i>	R746
Brown fat thermogenesis in a rat model of dietary obesity <i>J. S. Fisler, J. R. Lupien, R. D. Wood, G. A. Bray, and R. A. Schemmel</i>	R756
Serotonin and feeding responses of rats to amino acid imbalance: initial phase <i>D. W. Gietzen, Q. R. Rogers, P. M. B. Leung, B. Semon, and T. Piechota</i>	R763
Pulsatile secretion of growth hormone and insulin in relation to feeding in rats <i>P. Even, J. Danguir, S. Nicolaidis, C. Rougeot, and F. Dray</i>	R772
Diurnal patterns of hemodynamic performance in nonhuman primates <i>B. T. Engel and M. I. Talan</i>	R779
Renal response to volume expansion in atrial-appendectomy dogs <i>B. A. Benjamin, C. H. Metzler, and T. V. Peterson</i>	R786

RAPID COMMUNICATIONS

- Interleukin 1 affects glucose homeostasis
A. del Rey and H. Beledovsky

R794

LETTERS TO THE EDITOR

- Separation of captopril effects on salt and water intake by subfornical organ lesions
T. Bennett and S. M. Gardiner; R. L. Thunhorst, D. A. Fitts, and J. B. Simpson R799

No. 6. DECEMBER 1987

Vasoactive intestinal peptide stimulates ion transport in avian salt gland <i>R. J. Lowy, J. H. Schreiber, and S. A. Ernst</i>	R801
Control of discharge patterns of medullary respiratory neurons by pulmonary vagal afferent inputs <i>E. J. Zuperku and F. A. Hopp</i>	R809
Thermoregulatory effects of intracranial norepinephrine injections in goldfish <i>L. P. Wollmuth, L. I. Craushaw, and H. Panayiotides-Djaferis</i>	R821
Vasoconstrictor and vasodilator sites within anteroventral third ventricle region <i>M. L. Mangiapane and M. J. Brody</i>	R827
Angiotensin II sensitization of aldosterone responsiveness to plasma sodium in conscious dogs <i>D. C. Merrill, M. M. Skelton, and A. W. Cowley, Jr.</i>	R832
Extracellular Ca^{2+} , force, and energy state in cardiac tissue of rainbow trout <i>S. P. Hansen and H. Gesser</i>	R838
Selective cooling of the brain in reindeer <i>H. K. Johnsen, A. S. Blix, J. B. Mercer, and K.-D. Bolz</i>	R848
Effects of hypoxia and hypercapnia on $\dot{V}\text{t}$, f , and $\dot{V}\text{l}$ of nestling and adult bank swallows <i>C. Colby, D. L. Kilgore, Jr., and S. Howe</i>	R854
Organic cation secretion in flounder renal tissue <i>D. S. Miller and P. D. Holohan</i>	R861
Thermoregulatory responses of febrile sheep to spinal and hypothalamic heating <i>C. M. Blatteis, R. Necker, J. R. S. Hales, A. A. Fawcett, and K. Hirata</i>	R868
Role of atrial natriuretic peptide in natriuresis in volume-expanded rats <i>K. Kaneko, K. Okada, S. Ishikawa, T. Kuzuya, and T. Saito</i>	R877
Nasal heat and water exchange in grey seals <i>L. P. Folkow and A. S. Blix</i>	R883
Cardiac output and oxygen consumption in exercising Thoroughbred horses <i>J.-M. Weber, G. P. Dobson, W. S. Parkhouse, D. Wheeldon, J. C. Harman, D. H. Snow, and P. W. Hochachka</i>	R890
Lactate kinetics in exercising Thoroughbred horses: regulation of turnover rate in plasma <i>J.-M. Weber, W. S. Parkhouse, G. P. Dobson, J. C. Harman, D. H. Snow, and P. W. Hochachka</i>	R896
Fetal heart rate, arterial pressure, and blood volume responses to cortisol infusion <i>C. E. Wood, C. Y. Cheung, and R. A. Brace</i>	R904
Pain sensitivity, thermal capability, and brain monamine turnover in hypertensive rats <i>C. F. Tsai and M. T. Lin</i>	R910
Calcium transport in turtle bladder <i>S. Sabatini and N. A. Kurtzman</i>	R917
Circulating interleukin 1 and tumor necrosis factor during inflammation <i>L. L. Moldawer, J. Gelin, T. Scherstén, and K. G. Lundholm</i>	R922
Carotid baroreceptor-muscle sympathetic relation in humans <i>R. F. Rea and D. L. Eckberg</i>	R929
Effect of VIP on sweat secretion and cAMP accumulation in isolated simian eccrine glands <i>K. Sato and F. Sato</i>	R935

RAPID COMMUNICATIONS

Sensory innervation of white adipose tissue
R. B. Fishman and J. Dark

R942

Subject Index to Volume 22
Author Index to Volume 22

R945

R953

CORRIGENDA

Volume 253, July 1987
Volume 22, July 1987

Pages R179-R185: Eiji Gotoh, Kazuharu Murakami, Tristram D. Bahnsen, and William F. Ganong. "Role of brain serotonergic pathways and hypothalamus in regulation of renin secretion." In Tables 1, 2, 4, 5, and 6 the units were published incorrectly. Corrected versions of the tables follow.

Page R180:

TABLE 1. Changes in PRA produced by PCA

	Sham Operation		Lesion	
	Saline	PCA	Saline	PCA
<i>PRA, ng ANG I·ml⁻¹·2 h⁻¹</i>				
Lesions of dorsal raphe nucleus	9.2±1.9 (5)	23.3±5.8*† (5)	8.4±1.0 (9)	13.0±1.4* (13)
Lesions of paraventricular nuclei	12.7±2.4 (8)	38.8±7.5† (7)	17.6±1.2 (8)	15.6±2.6† (8)
Lesions of dorsomedial nuclei	21.5±1.5 (7)	38.6±7.9† (8)	18.8±2.9 (6)	47.5±14.4† (6)

Values are means ± SE; n, no. of animals in parentheses. PRA, plasma renin activity; ANG I, angiotensin I; PCA, p-chloroamphetamine (10 mg/kg). * P < 0.05 vs. control. † P < 0.05 lesions vs. sham.

Page R182:

TABLE 2. Changes in plasma ACTH produced by PCA, immobilization, and head-up tilt

	Sham Lesions		Paraventricular Lesions
	PCA	Saline	Plasma ACTH, pg/ml
Immobilization	254.6±27.9* (7)	80.0±4.7† (8)	90.2±10.8† (8)
Control	65.8±3.2 (8)	67.3±4.1 (8)	75.1±2.6 (7)
Head-up tilting	405.4±79.0* (8)	83.2±3.5 (8)	218.5±32.3* (19)
Control	89.1±11.6 (16)	54.0±2.6 (17)	87.6±8.1† (22)

Values are means ± SE; n, no. of animals in parentheses. ACTH, adrenocorticotrophic hormone; PCA, p-chloroamphetamine. * P < 0.05 vs. control. † P < 0.05 lesions vs. control.

Page R183:

TABLE 4. Changes in PRA and PRC produced by immobilization

	Sham Operation:		Lesion	
	Control	Immobilization	Control	Immobilization
<i>PRA, ng ANG I·ml⁻¹·2 h⁻¹</i>				
Lesions of dorsal raphe nucleus	11.3±1.2 (7)	61.2±8.7* (8)	12.7±1.4 (9)	68.7±5.3* (9)
Lesions of paraventricular nuclei	11.1±1.0 (8)	61.7±5.3* (8)	10.9±1.2 (9)	20.5±2.1† (9)
Lesions of dorsomedial nuclei	11.6±0.9 (8)	60.9±4.1* (9)	11.8±1.2 (10)	50.4±3.9* (10)
<i>PRC, ng ANG I·ml⁻¹·2 h⁻¹</i>				
Lesions of paraventricular nuclei	98.5±14.6 (7)	271.7±71.6* (8)	115.8±19.7 (8)	279.6±37.9* (8)

Values are means ± SE; n, no. of animals in parentheses. PRA, plasma renin activity; PRC, plasma renin concentration; ANG I, angiotensin I. * P < 0.05 vs. control. † P < 0.05 lesions vs. sham.

TABLE 5. Changes in PRA and PRC produced by head-up tilt in rats anesthetized with Inactin (120 mg/kg)

	Sham Operation		Lesion	
	Control	Tilt	Control	Tilt
<i>PRA, ng ANG I·ml⁻¹·2 h⁻¹</i>				
Lesions of dorsal raphe nucleus	49.2±3.9 (8)	110.1±13.5* (10)	50.1±5.0 (8)	137.1±16.4* (11)
Lesions of paraventricular nuclei	54.2±14.2 (18)	119.0±13.9* (20)	40.2±6.7 (19)	64.0±5.0† (24)
Lesions of dorsomedial nuclei	55.1±7.4 (8)	166.2±12.0* (9)	67.9±5.5 (9)	142.6±16.1* (10)
<i>PRC, ng ANG I·ml⁻¹·2 h⁻¹</i>				
Lesions of paraventricular nuclei	231.7±55.5 (12)	541.9±89.1* (18)	289.6±39.5 (17)	628.2±44.9* (20)

Values are means ± SE; n, no. of animals in parentheses. PRA, plasma renin activity; PRC, plasma renin concentration; ANG I, angiotensin I. * $P < 0.05$ vs. control. † $P < 0.05$ lesions vs. sham.

Page R184:

TABLE 6. Changes in PRA and PRC produced by feeding a low-sodium diet for 7 days

	Sham Operation		Lesion	
	Control	Low sodium	Control	Low sodium
<i>PRA, ng ANG I·ml⁻¹·2 h⁻¹</i>				
Lesions of dorsal raphe nucleus	14.0±1.5 (8)	38.3±5.1 (8)	13.5±2.1 (9)	40.2±4.8* (9)
Lesions of paraventricular nuclei	-14.6±1.3 (9)	40.9±5.2* (11)	8.6±1.3† (8)	12.3±1.5† (16)
Lesions of dorsomedial nuclei	15.9±2.1 (7)	48.7±5.5* (8)	16.2±2.4 (8)	51.5±4.4* (9)
<i>PRC, ng ANG I·ml⁻¹·2 h⁻¹</i>				
Lesions of paraventricular nuclei	91.1±7.5 (9)	258.5±33.6* (11)	95.0±15.0 (8)	284.3±29.3* (16)

Values are means ± SE; n, no. of animals in parentheses. PRA, plasma renin activity, PRC, plasma renin concentration; ANG I, angiotensin I. * $P < 0.05$ vs. control. † $P < 0.05$ lesions vs. sham.

American Journal of Physiology: Renal, Fluid and Electrolyte Physiology

No. 1. JULY 1987

EDITORIAL REVIEW

Angiotensin receptor subtypes of the kidney cortex <i>J. G. Douglas</i>	F1
Response of collecting tubule cells to aldosterone and potassium loading <i>M. Kashgarian, T. Ardito, D. J. Hirsch, and J. P. Haylett</i>	F8
H ⁺ -L-proline cotransport by vesicles from pars convoluta of rabbit proximal tubule <i>H. Røgaard-Petersen, C. Jacobsen, and M. I. Sheikh</i>	F15
Amiloride interacts with renal α - and β -adrenergic receptors <i>M. J. Howard, M. D. Mullen, and P. A. Insel</i>	F21
Ionic dependence of active Na-K transport: "clamping" of cellular Na ⁺ with monensin <i>R. S. Haber, T. A. Pressley, J. N. Loeb, and F. Ismail-Beigi</i>	F26
Effect of acute hypercapnia on PTH-stimulated phosphaturia in dietary P _i -deprived rat <i>J. Guntupalli, B. Matthews, B. Carlin, and E. Bourke</i>	F34
Vasopressin receptors from cultured mesangial cells resemble V _{1a} type <i>S. Jard, C. Lombard, J. Marie, and G. Devilliers</i>	F41
Na and nonelectrolyte entry into inner ear fluids of the rat <i>O. Sterkers, E. Ferrary, G. Saumon, and C. Amiel</i>	F50
Facilitated transfer of glucose from blood into perilymph in the rat cochlea <i>E. Ferrary, O. Sterkers, G. Saumon, P. Tran Ba Huy, and C. Amiel</i>	F59
Endogenous prostaglandins modulate autoregulation of renal blood flow in young rats <i>R. L. Chevalier, R. M. Carey, and D. L. Kaiser</i>	F66
Potassium transport in cortical collecting tubules from mineralocorticoid-treated rat <i>J. A. Schafer and S. L. Troutman</i>	F76
Acidification is inhibited in late proximal convoluted tubule during chronic metabolic alklosis <i>F.-Y. Liu and M. G. Cogan</i>	F89
Ultrastructural localization of acidic compartments in cells of isolated rabbit PCT <i>L. Larsson, W. L. Clapp III, C. H. Park, J. K. Cannon, and C. C. Tisher</i>	F95
Cellular action of arginine vasopressin in the isolated renal tubules of hypothyroid rats <i>J. K. Kim, S. N. Summer, and R. W. Schrier</i>	F104
Structural and functional correlates of effects of angiotensin-induced changes in rat glomerulus <i>D. P. Haley, M. Sarrafian, R. E. Bulger, D. C. Dobyan, and G. Eknoyan</i>	F111
Water permeability and particle aggregates in ADH-, cAMP-, and forskolin-treated toad bladder <i>W. A. Kachadorian, R. A. Coleman, and J. B. Wade</i>	F120
Morphometric analysis of distinct microanatomy near the base of proximal tubule cells <i>L. W. Welling, D. J. Welling, J. W. Holsapple, and A. P. Evan</i>	F126
Cimetidine transport in isolated luminal membrane vesicles from rabbit kidney <i>L. Gisclon, F. M. Wong, and K. M. Giacomini</i>	F141
Evidence for a high-affinity sodium-dependent D-glucose transport system in the kidney <i>G. A. Quamme and H. J. Freeman</i>	F151
Renal effects of cyclooxygenase inhibition in the pregnant rat <i>C. Baylis</i>	F158
Insulin-stimulated protein metabolism in chronic azotemia and exercise <i>T. A. Davis, S. Klahr, and I. E. Karl</i>	F164
Glomerular dynamics in the hypothyroid rat and the role of the renin-angiotensin system <i>D. M. Gillum, S. A. Falk, W. S. Hammond, and J. D. Conger</i>	F170

SPECIAL COMMUNICATIONS

Lithium as a marker for proximal tubular delivery during low salt intake
and diuretic infusion

K. A. Kirchner

F188

LETTERS TO THE EDITOR

Acid-base balance: a quest for alkalinity data

Z. H. Burbea, C. Chaimovitz, and S. Ben-Yaakov

F197

Ammonium, urea, and systemic pH regulation

*M. A. Knepper, M. B. Burg, J. Orloff, R. W. Berliner,
and F. C. Rector, Jr.; D. E. Atkinson and E. Bourke*

F199

No. 2. AUGUST 1987

EDITORIAL REVIEW

Chloride transport by the cortical and outer medullary collecting duct

V. L. Schuster and J. B. Stokes

F203

Immunochemical characterization of a band 3-like anion exchanger in collecting duct
of human kidney

S. Wagner, R. Vogel, R. Lietzke, R. Koob, and D. Drenckhahn

F213

Uninephrectomy and dietary protein affect fluid absorption in rabbit
proximal straight tubules

J. R. Johnston, B. M. Brenner, and S. C. Hebert

F222

Effects of renal perfusion pressure on the natriuresis induced by atrial natriuretic factor
A. A. Seymour, S. G. Smith III, and E. K. Mazack

F234

Effects of leukotriene D₄ on glomerular dynamics in the rat
K. F. Badr, B. M. Brenner, and I. Ichikawa

F239

Renal effects of endotoxin in the male rat
P. C. Churchill, A. K. Bidani, and M. M. Schwartz

F244

Purification of rat papillary collecting duct cells: functional and metabolic assessment
J. B. Stokes, C. Grupp, and R. K. H. Kinne

F251

GFR regulation and flow-dependent electrophysiology of early distal
tubule in *Amphiuma*

B.-E. Person and D. J. Marsh

F263

Dynamics of NAD in cortical nephron segments: effect of nicotinamide and of
dietary phosphate intake

*A. N. K. Yusufi, G. M. Kiebzak, E. Kusano, J. L. Werness,
S. Homma, and T. P. Dousa*

F269

Bicarbonate and ammonia transport in isolated perfused rat proximal straight tubules
J. L. Garvin and M. A. Knepper

F277

Control of steady-state pH in rabbit proximal straight tubules
J. L. Atkins and M. B. Burg

F282

Video measurement of basolateral NaCl reflection coefficient in proximal tubule
L. W. Welling, D. J. Welling, and T. J. Ochs

F290

EGF-induced mitogenesis in proximal tubular cells: potentiation by angiotensin II
*J. Norman, B. Badie-Dezfooly, E. P. Nord, I. Kurtz, J. Schlosser, A. Chaudhari,
and L. G. Fine*

F299

Bicarbonate transport by initial collecting tubule of aquatic- and land-phase amphibia
C. B. Yucha and L. C. Stoner

F310

Glomerular size selectivity in nephrotic rats exposed to diets with
different protein content

A. Remuzzi, C. Battaglia, L. Rossi, C. Zoja, and G. Remuzzi

F318

Vasopressin increases cytosolic free calcium in LLC-PK ₁ cells through a V ₁ -receptor <i>M. A. Burnatowska-Hledin and W. S. Spielman</i>	F328
Effects of cell Ca and pH on Na channels from rat cortical collecting tubule <i>L. G. Palmer and G. Frindt</i>	F333
Electrogenic Na/HCO ₃ cotransport across basolateral membrane of isolated perfused Necturus proximal tubule <i>A. G. Lopes, A. W. Siebens, G. Giebisch, and W. F. Boron</i>	F340
Renal substrate utilization in normal and acidotic rats <i>L. Goldstein</i>	F351

SPECIAL COMMUNICATIONS

Improved separation method for rat proximal and distal renal tubules <i>F. A. Gesek, D. W. Wolff, and J. W. Strandhoy</i>	F358
Measurement of flow rate in rat proximal tubules with a nonobstructing optical method <i>C.-L. Chou and D. J. Marsh</i>	F366

RAPID COMMUNICATIONS

Inhibition of epithelial Na ⁺ transport by atriopeptin, protein kinase c, and pertussis toxin <i>M. Mohrmann, H. F. Cantiello, and D. A. Ausiello</i>	F372
---	------

CORRIGENDUM

Luminal disequilibrium pH and ammonia transport in outer medullary collecting duct <i>R. A. Star, M. B. Burg, and M. A. Knepper</i>
--

No. 3. SEPTEMBER 1987

EDITORIAL REVIEW

Segmental synthesis and actions of prostaglandins along the nephron <i>J.-P. Bonvalet, P. Pradelles, and N. Farman</i>	F377
---	------

Effect of protein-restricted diet on renal response to a meat meal in humans <i>G. Viberti, E. Bognetti, M. J. Wiseman, R. Dodds, J. L. Gross, and H. Keen</i>	F388
Chronic hypercapnia enhances V _{max} of Na-H antiporter of renal brush-border membranes <i>Z. Talor, W.-C. Yang, J. Shuffield, E. Sack, and J. A. L. Arruda</i>	F394
Effects of cadmium on canine renal cortical adenylate cyclase <i>U. Lundberg, C. L. Milanes, N. Pernalete, J. R. Weisinger, N. E. I. R. Contreras, V. Paz-Martinez, and E. Bellorin-Font</i>	F401
Alterations of enzymatic activities along rat collecting tubule in potassium depletion <i>M. Imbert-Teboul, A. Doucet, S. Marsy, and S. Siaume-Perez</i>	F408
Characterization of K-ATPase activity in distal nephron: stimulation by potassium depletion <i>A. Doucet and S. Marsy</i>	F418
Renal autoregulation and pressure natriuresis during ANF-induced diuresis <i>R. V. Paul, K. A. Kirk, and L. G. Navar</i>	F424
Succinate and citrate transport in renal basolateral and brush-border membranes <i>S. H. Wright and T. M. Wunz</i>	F432
Determinants of mitochondrial O ₂ dependence in kidney <i>T. Y. Aw, E. Wilson, T. M. Hagen, and D. P. Jones</i>	F440
H ⁺ gradient-driven dipeptide reabsorption in proximal tubule of rat kidney. Studies in vivo and in vitro <i>S. Silbernagl, V. Ganapathy, and F. H. Leibach</i>	F448
Effects of PDGF on inositol phosphates, Ca ²⁺ , and contraction of mesangial cells <i>P. Menè, H. E. Abboud, G. R. Dubyak, A. Scarpa, and M. J. Dunn</i>	F458

Epoxygenase metabolites of arachidonic acid inhibit vasopressin response in toad bladder <i>D. Schlondorff, E. Petty, J. A. Oates, M. Jacoby, and S. D. Levine</i>	F464
Temperature sensitivity of renin-angiotensin system in the ground squirrel <i>C. T. Harker, M. J. Kluger, and R. L. Malvin</i>	F471
Basolateral potassium channels in renal proximal tubule <i>H. Sackin and L. G. Palmer</i>	F476
Potassium channels in <i>Necturus</i> proximal tubule <i>K. Kawahara, M. Hunter, and G. Giebisch</i>	F488
Effect of adrenalectomy on NEM-sensitive ATPase along rat nephron and on urinary acidification <i>C. Khadouri, S. Marsy, C. Barlet-Bas, and A. Doucet</i>	F495
Postglomerular capillary solute flux restricted by shape and charge in the dog <i>C. Whiteside and M. Silverman</i>	F500
Anion exchange pathways for Cl ⁻ transport in rabbit renal microvillus membranes <i>L. P. Karniski and P. S. Aronson</i>	F513
Regulation of brain water and electrolytes during acute hyperosmolality in rats <i>H. F. Cserr, M. DePasquale, and C. S. Patlak</i>	F522
Volume regulatory influx of electrolytes from plasma to brain during acute hyperosmolality <i>H. F. Cserr, M. DePasquale, and C. S. Patlak</i>	F530
Bulk flow of cerebrospinal fluid into brain in response to acute hyperosmolality <i>R. G. L. Pullen, M. DePasquale, and H. F. Cserr</i>	F538
Thiazide-sensitive sodium chloride cotransport in early distal tubule <i>D. H. Ellison, H. Velázquez, and F. S. Wright</i>	F546
Chloride-dependent potassium secretion in early and late renal distal tubules <i>H. Velázquez, D. H. Ellison, and F. S. Wright</i>	F555
A model of osmotic and hydrostatic pressure effects on volume absorption in the proximal tubule <i>J. C. Williams, Jr., and J. A. Schafer</i>	F563
Effect of V ₂ -receptor-mediated changes on inner medullary blood flow induced by AVP <i>B. Kiberd, C. R. Robertson, T. Larson, and R. L. Jamison</i>	F576
Effects of flow rate on proximal tubule ultrastructure <i>A. B. Maunsbach, G. H. Giebisch, and B. A. Stanton</i>	F582

SPECIAL COMMUNICATIONS

Permeabilizing the granular cell of toad and turtle bladder: lack of cell coupling <i>M. Gruber, P. R. Brink, D. DiLillo, P. Devine, and E. Pastoriza-Munoz</i>	F588
--	------

No. 4. OCTOBER 1987

EDITORIAL REVIEW

Roles and mechanisms of urinary buffer excretion <i>L. L. Hamm and E. E. Simon</i>	F595
---	------

Characteristics of H ⁺ current transients induced by adverse H ⁺ gradient pulses in toad bladder <i>A. C. Nero, J. H. Schwartz, and M. R. F. Furtado</i>	F606
Potassium secretion by nonsensory region of gerbil utricle in vitro <i>N. Y. Marcus and D. C. Marcus</i>	F613
Postnatal maturation of rabbit renal collecting duct: intercalated cell function <i>L. M. Satlin and G. J. Schwartz</i>	F622
Electrophysiological analysis of β-receptor stimulation in salamander proximal tubules <i>N. S. Morgunov</i>	F636
Load dependency of sodium chloride reabsorption by medullary collecting duct in rat <i>W. A. Cupples and H. Sonnenberg</i>	F642

Presence and possible role of a renal brush-border Gly-Pro-X-releasing exopeptidase <i>K.-J. Andersen and J. K. McDonald</i>	F649
NMN transport by snake renal tubules: choline effects, countertransport, H ⁺ -NMN exchange <i>W. H. Dantzler and O. H. Brokl</i>	F656
Hepatic denervation alters first-phase urinary sodium excretion in dogs with cirrhosis <i>M. Levy and M. J. Wexler</i>	F664
Sodium excretion in dogs with low-grade caval constriction: role of hepatic nerves <i>M. Levy and M. J. Wexler</i>	F672
Effect of atrial natriuretic peptides on renal medullary solute gradients <i>C. L. Davis and J. P. Briggs</i>	F679
O ₂ metabolites cause reperfusion injury after short but not prolonged renal ischemia <i>S. L. Linas, D. Whittenburg, and J. E. Repine</i>	F685
O ₂ metabolite-mediated injury in perfused kidneys is reflected by consumption of DMTU and glutathione <i>S. L. Linas, P. F. Shanley, C. W. White, N. P. Parker and J. E. Repine</i>	F692
Evidence for the transport function of uricase, an oxidative enzyme <i>W. T. Pordy, M. S. Lipkowitz, and R. G. Abramson</i>	F702
Calcium and vitamin D metabolism in spontaneously hypertensive rats <i>C. H. Hsu, C.-S. Yang, S. R. Patel, and M. G. Stevens</i>	F712
Modulation of albuminuria by dietary protein and converting enzyme inhibition <i>F. N. Hutchison, M. Schambelan, and G. A. Kaysen</i>	F719
Hypocalcemia-associated modulation of renal response to acute volume expansion in rats <i>D. E. Wesson</i>	F726
Release of renin and angiotensin II into plasma and lymph during hyperchloremia <i>C. S. Wilcox and W. S. Peart</i>	F734
Effects of adrenalectomy on CCD: evidence for differential response of two cell types <i>S. Muto, G. Giebisch, and S. Sansom</i>	F742
Na-dependent effects of DOCA on cellular transport properties of CCDs from ADX rabbits <i>S. Sansom, S. Muto, and G. Giebisch</i>	F753
Ammonia entry along rat proximal tubule in vivo: effects of luminal pH and flow rate <i>E. E. Simon and L. L. Hamm</i>	F760
Facilitatory role of efferent renal nerve activity on renal sensory receptors <i>U. C. Kopp, L. A. Smith, and G. F. DiBona</i>	F767
Vascular muscle cell depolarization and activation in renal arteries on elevation of transmural pressure <i>D. R. Harder, R. Gilbert, and J. H. Lombard</i>	F778

No. 5 NOVEMBER 1987

EDITORIAL REVIEW

Structure and development of the glomerular capillary wall and basement membrane <i>D. R. Abrahamson</i>	F783
---	------

Indirect coupling to Na ⁺ of p-aminohippuric acid uptake into rat renal basolateral membrane vesicles <i>H. Shimada, B. Moewes, and G. Burckhardt</i>	F795
Hormonal regulation of gluconeogenesis in cultured proximal tubular cells: role of cytosolic calcium <i>M. S. Goligorsky, D. Osborne, T. Howard, K. A. Hruska, and I. E. Karl</i>	F802
α_1 -Adrenergic stimulation of renal Na reabsorption requires glucose metabolism <i>A. D. Baines, R. Drangova, and P. Ho</i>	F810
Bicarbonate transport in collecting tubules from outer stripe of outer medulla of rabbit kidneys <i>T. D. McKinney and K. K. Davidson</i>	F816

Vasopressin effects on urea and H ₂ O transport in inner medullary collecting duct subsegments <i>J. M. Sands, H. Nonoguchi, and M. A. Knepper</i>	F823
Na ⁺ -H ⁺ antiporter in posthypercapnic state <i>W. C. Yang, J. A. L. Arruda, and Z. Talor</i>	F833
Distribution of IGF receptors in the plasma membrane of proximal tubular cells <i>M. R. Hammerman and S. Rogers</i>	F841
α - and β -adrenergic receptors in proximal tubules of rat kidney <i>P. R. Sundaresan, T. L. Fortin, and S. L. Kelvie</i>	F848
Luminal and basolateral uptake of insulin in isolated, perfused, proximal tubules <i>S. Nielsen, J. T. Nielsen, and E. I. Christensen</i>	F857
Effects of indomethacin on renal response to atrial natriuretic peptide <i>C. A. Gaillard, H. A. Koomans, A. J. Rabelink, and E. J. Dorhout Mees</i>	F868
Effect of vasopressin on Na ⁺ -K ⁺ -ATPase activity in rat cortical collecting duct <i>K. Tomita, A. Owada, Y. Iino, N. Yoshiyama, and T. Shiigai</i>	F874
Possible modulatory role of angiotension II on atrial peptide-induced natriuresis <i>F. J. Salazar, J. P. Granger, M. J. Fiksen-Olsen, M. D. Bentley, and J. C. Romero</i>	F880
Effect of acute renal failure on insulin disposition in the isolated perfused rat kidney <i>M. E. Brier, G. R. Aronoff, and P. R. Mayer</i>	F884
Detection of a Na ⁺ -H ⁺ antiporter in cultured rat renal papillary collecting duct cells <i>S. M. Wall, S. Mualem, and J. A. Kraut</i>	F889
Flow-dependent potassium secretion by rabbit cortical collecting tubule in vitro <i>B. G. Engbretson and L. C. Stoner</i>	F896
NMR monitoring of intracellular sodium in dog and rabbit kidney tubules <i>Y. Boulanger, P. Vinay, and M. Boulanger</i>	F904
Kinetics of bicarbonate transport in the early proximal convoluted tubule <i>F.-Y. Liu and M. G. Cogan</i>	F912
Binding and functional effects of atrial natriuretic factor in isolated rat kidney <i>M. Suzuki, F. A. Almeida, D. R. Nussenzveig, D. Sawyer, and T. Maack</i>	F917
Role of prostaglandin in norepinephrine and renin release in canine kidney <i>Y. Hayashi, H. Hisa, and S. Satoh</i>	F929
Na ⁺ -H ⁺ exchanger in proximal cells isolated from rabbit kidney. I. Functional characteristics <i>M. Bidet, M. Tauc, J. Merot, A. Vandewalle, and P. Poujeol</i>	F935
Na ⁺ -H ⁺ exchanger in proximal cells isolated from kidney. II. Short-term regulation by glucocorticoids <i>M. Bidet, J. Merot, M. Tauc, and P. Poujeol</i>	F945
Role of AVP in malignant DOC-salt hypertension: studies using vascular and antidiuretic antagonists <i>J. Filep, J. C. Frölich, and E. Földes-Filep</i>	F952
Asymmetric affinity of Na ⁺ -H ⁺ antiporter for Na ⁺ at the cytoplasmic versus external transport site <i>D. Goldfarb and E. P. Nord</i>	F959
Atrial natriuretic peptide, right atrial pressure, and sodium excretion rate in the rat <i>T. A. Fried, M. A. Ayon, G. McDonald, A. Lau, T. Inagami, and J. H. Stein</i>	F969
Effects of altered NaCl intake on renal hemodynamic and renin release responses to RNS <i>J. L. Osborn and D. D. Kinstetter</i>	F976
Electrolyte transport in a central core model of the renal medulla <i>J. L. Stephenson, Y. Zhang, A. Eftekhari, and R. Tewarson</i>	F982
Mechanism of proton-induced bone calcium release: calcium carbonate dissolution <i>D. A. Bushinsky and R. J. Lechleider</i>	F998
Renal effects of aprotinin after 24 hours of unilateral ureteral obstruction <i>W. E. Yarger, W. J. Newman, and P. E. Klotman</i>	F1006
Production and degradation of calcitriol in renal failure rats <i>C. H. Hsu, S. Patel, E. W. Young, and R. U. Simpson</i>	F1015
Passive, one-dimensional countercurrent models do not simulate hypertonic urine formation <i>A. S. Wexler, R. E. Kalaba, and D. J. Marsh</i>	F1020

Importance of chloride for the correction of chronic metabolic alkalosis in the rat <i>B. M. Wall, G. V. Byrum, J. H. Galla, and R. G. Luke</i>	F1031
Transport of tetraethylammonium by rabbit renal brush-border and basolateral membrane vesicles <i>S. H. Wright and T. M. Wunz</i>	F1040
Control of renin release by dietary NaCl in the rat <i>W. J. Welch, C. E. Ott, J. N. Lorenz, and T. A. Kotchen</i>	F1051

RAPID COMMUNICATIONS

Visualization of ANP receptor on glomeruli of bovine kidney by use of a specific antiserum <i>M. Shimonaka, T. Saheki, H. Hagiwara, Y. Hagiwara, H. Sono, and S. Hirose</i>	F1058
Adrenal medullary regulation of rat renal cortical adrenergic receptors <i>P. R. Sundaresan, M. M. Guarnaccia, and J. L. Izzo, Jr.</i>	F1063

No. 6. DECEMBER 1987

EDITORIAL REVIEW

Interorgan glutamine flow in metabolic acidosis <i>T. C. Welbourne</i>	F1069
---	-------

Atriopeptins decrease resting and hormone-elevated cytosolic Ca in cultured mesangial cells <i>A. Hassid</i>	F1077
Glomerular and hormonal responses to dietary protein intake in human renal disease <i>M. E. Rosenberg, J. E. Swanson, B. Leppala Thomas, and T. H. Hostetter</i>	F1083
Ultrastructural changes in isolated perfused proximal tubules during osmotic water flow <i>A. B. Maunsbach, S. Tripathi, and E. L. Boulaep</i>	F1091
Splanchnic and renal hemodynamic responses to intraportal infusion of glucagon <i>A. J. Premer</i>	F1105
Prostaglandins and the urinary concentrating defect in potassium-depleted rabbits <i>K. H. Raymond, M. D. Lifschitz, and T. D. McKinney</i>	F1113
Degradation and transport of AVP by proximal tubule <i>F. A. Carone, E. I. Christensen, and G. Flouret</i>	F1120
The contribution of atrial natriuretic factor to acute volume natriuresis in rats <i>R. W. Barbee and N. C. Trippodo</i>	F1129
Potassium transport by medullary collecting tubule of rabbit: effects of variation in K intake <i>C. S. Wingo</i>	F1136
Effect of acute respiratory acidosis on two populations of intercalated cells in rat cortical collecting duct <i>J. W. Verlander, K. M. Madsen, and C. C. Tisher</i>	F1142
Calcium antagonists preferentially dilate preglomerular vessels of hydronephrotic kidney <i>J. T. Fleming, N. Parekh, and M. Steinhausen</i>	F1157
Lack of neural control of atrial natriuretic peptide release in conscious dogs <i>Y. Nishida, A. Miyata, H. Morita, N. Uemura, K. Kangawa, H. Matsuo, and H. Hosomi</i>	F1164
Insulin stimulates ammoniagenesis in canine renal proximal tubular segments <i>M. C. Chobanian and M. R. Hammerman</i>	F1171
Plasma potassium and diurnal cyclic potassium excretion in the rat <i>L. Rabinowitz, R. Berlin, and H. Yamauchi</i>	F1178
Kaliuretic regulatory factors in the rat <i>J. C. Rutledge and L. Rabinowitz</i>	F1182
Renal synthesis and urinary excretion of eicosanoids during pregnancy in rats <i>K. P. Conrad and M. J. Dunn</i>	F1197
Effects of anion transport inhibitors and ion substitution on Cl ⁻ transport in TAL of Henle's loop <i>Y. Kondo, K. Yoshitomi, and M. Imai</i>	F1206

Effect of pH on Cl ⁻ transport in TAL of Henle's loop <i>Y. Kondo, K. Yoshitomi, and M. Imai</i>	F1216
Effects of aortic constriction and renal denervation in DOCA-hypertensive swine <i>E. J. Zambraski and C. D. Ciccone</i>	F1223
Disequilibrium pH and ammonia transport in isolated perfused cortical collecting ducts <i>R. A. Star, I. Kurtz, R. Mejia, M. B. Burg, and M. A. Knepper</i>	F1232
Characterization of amino acid metabolism by cultured rat kidney cells: study with ¹⁵ N <i>I. Nissim, B. States, M. Yudkoff, and S. Segal</i>	F1243
Stretch-activated potassium channels in renal proximal tubule <i>H. Sackin</i>	F1253
The collecting tubule of <i>Amphiuma</i> . I. Electrophysiological characterization <i>M. Hunter, J.-D. Horisberger, B. Stanton, and G. Giebisch</i>	F1263
The collecting tubule of <i>Amphiuma</i> . II. Effects of potassium adaptation <i>J.-D. Horisberger, M. Hunter, B. Stanton, and G. Giebisch</i>	F1273
Platelet-activating factor mediates endotoxin-induced acute renal insufficiency in rats <i>J. Wang and M. J. Dunn</i>	F1283
Lysosome distribution and cathepsin B and L activity along the rabbit proximal tubule <i>K. M. Madsen and C. H. Park</i>	F1290

RAPID COMMUNICATIONS

Differentiated transport functions in primary cultures of rabbit collecting ducts <i>G. Fejes-Tóth and A. Náray-Fejes-Tóth</i>	F1302
---	-------

LETTERS TO THE EDITOR

Recovery from metabolic acidosis is a function of renal NH ₄ ⁺ loss: agreement between two models <i>T. H. Maren, D. E. Atkinson, and E. Bourke</i>	F1308
--	-------

Subject Index to Volume 22	F1311
Author Index to Volume 22	F1321

CORRIGENDA

Volume 252, June 1987
Volume 21, June 1987

Page F1148: Robert A. Star, Maurice B. Burg, and Mark A. Knepper. "Luminal disequilibrium pH and ammonia transport in outer medullary collecting duct." We regret that an error was made in the title of this article. The correct title and the article are reprinted in the August 1987 issue of this journal.

Page F1167: P. S. Avasthi, E. R. Greene, and W. F. Voyles. "Noninvasive Doppler assessment of human postprandial renal blood flow and cardiac output." *Page F1173:* DISCUSSION, the subheading in the second column should read *Cardiac Output*, not *Carbon Monoxide*.

Volume 253, August 1987
Volume 22, August 1987

Page F366: Chung-Lin Chou and Donald J. Marsh. "Measurement of flow rate in rat proximal tubules with a nonobstructing optical method." *Page F368:* the estimation equation should read:

$$r_\tau = \frac{\sum_{i=1}^n x_i y_{i+\tau}}{\left(\sum_{i=1}^n x_i^2 \sum_{i=1}^n y_{i+\tau}^2 \right)^{1/2}}, \quad 1 \leq \tau \leq 150$$

